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City of Cleveland Memorandum
Frank G. Jackson, Mayor

Received by Clerk of Cleveland City Council on October 27, 2020

Date: October 22, 2020

To: ***Patricia Britt, Clerk of Council***
City Council Offices

From: Matthew Spronz, Director
Mayor's Office of Capital Projects

Subject: ***2018 Capital Repair Audit of First Energy Stadium***

Enclosed please find the 2018 Capital Repair Audit of First Energy Stadium Report per the requirements of our Agreement with the Browns per Codified Ordinance No. 805-16 passed August 10, 2016.

Thank you

MS/cv

2018 CAPITAL REPAIR AUDIT
FOR FIRSTENERGY STADIUM
FOR THE CITY OF CLEVELAND

OSBORN ENGINEERING

CITY OF CLEVELAND OHIO

OSPORTS

OSBORN ENGINEERING

FEBRUARY 11, 2019

OSBORN
ENGINEERING

January 7, 2019

Mr. Matthew L. Spronz, P.E., PMP, Director
City of Cleveland
Mayor's Office of Capital Projects
601 Lakeside Avenue, Room 113
Cleveland, Ohio 44114

Re: 2018 Capital Repair Audit of FirstEnergy Stadium (Rev #1)

Dear Mr. Spronz:

Attached herein is the Capital Repair Audit of FirstEnergy Stadium Report per the requirements of our Agreement with the City dated September 12, 2018. Included within is one (1) hard copy to the City, and three (3) hard copies to the Browns.

In addition, as you are aware the City has on-going access to the cloud based PlanGrid files should you need additional information. As required, Osborn has provided the City and the Browns with licenses to access PlanGrid until April 1, 2021.

Osborn greatly appreciates the opportunity to work with the City of Cleveland on this important project. Please do not hesitate to contact me should you have any questions.

Sincerely,

Osborn Engineering
Gary A. Hribar – CEO

By: Jack P. Krebs, P.E.
Director of Sports Engineering

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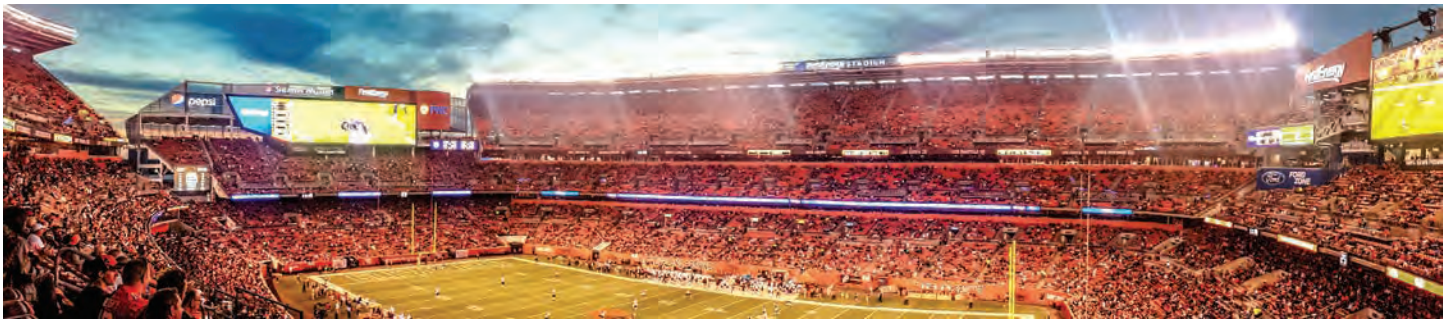


EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The City of Cleveland owns FirstEnergy Stadium that is the home of the Cleveland Browns. The Stadium was originally constructed in 1999. As part of the mutual lease between the City and the Browns, a facility condition audit must be performed every five (5) years. This Capital Report Audit is intended to satisfy that lease requirement.

The Osborn Engineering team was directed to develop this audit report based on Osborn's evaluation of all building systems. The development of this report has been monitored periodically since commencement of the project in August of 2018 by the City and the Browns.

The City required that all site findings be documented using PlanGrid software. This software is an enhanced data base that captures the assessment team's comments, repair quantities, relevant photographs, and cost information. This written report is intended to act as a compliment to the information contained within PlanGrid. The City and Browns have complete access to all information input into PlanGrid. Access to the software is available until April 1, 2021. Please note that this software can be used to track repairs as they are completed and the data can be revised as needed.

Overall, FirstEnergy Stadium is in good condition considering the age of the facility. Based on the assessment team's observations, the Stadium is considered to be well maintained thus maximizing the useful service life of the various system that comprise a modern-day professional sports facility. It should also be noted that the City and Browns have been pro-actively addressing issues via implementation of annual repair/replacement program using available funding sources.

The following summary will concentrate on issues that are considered to be life/safety related or require considerable expense if implemented. The issues are broken down on a discipline-specific basis. The reader is encouraged to review the details of the Report included within for further specific information.

Civil / Landscape
The areas of the site surrounding the building require on-going repairs to concrete slabs/walls and joints. The number of trees, shrubbery and ground cover have been greatly reduced since 1999. The reduction is due to failure of the landscaping and/or a result of recently installed NFL-directed security provisions.

Architectural
The fixed seats in the Upper Bowl are generally in good condition. However, the seats and associated hardware in the Lower Bowl are 20 years old and in fair to poor condition. The elevator cab finishes are in need of upgrades. In addition, the elevator drives are at the end of their useful service life. Water infiltration through seat deck joint openings damage finishes within the suites and other finished spaces.

Structural
As noted previously, the City and Browns have been addressing structural deterioration on a yearly basis. Such attention will be required each year to prevent greater distress/costs if such repairs are delayed. The pedestrian ramps are in fair to poor condition. Thus far only five (5) of the 46 ramps in the stadium have been replaced. Replacement of ramps must continue on an annual basis as funds permit.

Plumbing
The domestic 4" and 6" galvanized pipes are beginning to corrode internally resulting in the damage to systems being fed by these pipes. Replacement of all such pipes is recommended. The existing 3,000 gallon hot water storage tank is original and approaching the end of its useful service life.

Mechanical
The chilled water piping near the chiller plant was incorrectly installed as part of the original stadium construction resulting in inefficient operation of the system. The piping must be corrected to maximize energy savings. The building automation system (BAS) hardware is original and not currently supported by the manufacturer. Therefore, it is critical to replace this system to allow the maintenance staff the ability to control the system as intended.

Fire Alarm / Fire Protection
There have been numerous changes to fire alarm codes since 1999. A new fire alarm system is recommended to provide a basic level of safety to the general public and employees. Excessive corrosion of the main 12" incoming fire service will necessitate replacement of that pipe. The assessment team recommends that a comprehensive hazard occupancy analysis be conducted to identify the design basis of all existing systems and compare them against current occupancy.

Electrical
The Micro-Lite lighting control system is 20 years old and has begun to fail. Replacement parts are no longer available. It is critical that the system be replaced very soon before the next major event at the Stadium.

Technology
The existing low voltage cabling is unsuited for many current and future technologies. It is recommended that all such cabling be replaced with new cabling to ensure continued use of the system.

Broadcast
The existing graphics system is no longer software supported and does not allow full use of available technology within the Stadium. The existing router is incapable of supporting current IP based architecture thus limiting functionality. The Stadium sound system results in hot spots and imbalance sound. The sound system should be evaluated and expanded or replaced.

All items identified for repair/replacement in this Report were on a prioritized time basis considering life/safety, remaining service life and other such factors. The time periods considered: 0 year; 0-1 years; 2-5 years; and 6-10 years.

Included within this Report are Capital Repair costs for all documented items that are recommended for repair/replacement. These costs are segregated by the four (4) priority-based time periods noted above. The following is a summary of these costs:

TYPE	TIME PERIOD	CAPITAL REPAIR COST
Immediate	0 Year	$694,925.00
Emergency	0-1 Years	$10,924,951.00
Capital Repair	2-5 Years	$33,307,584.00
Capital Repair	6-10 Years	$35,666,788.00

Osborn Engineering appreciates the opportunity to team with the City of Cleveland and the Cleveland Browns on the five (5) year Audit of FirstEnergy Stadium.

PURPOSE OF AUDIT

PURPOSE OF AUDIT

FirstEnergy Stadium (the Stadium) is a professional football venue that hosts the Cleveland Browns (Browns) NFL team as well as other events throughout any given year. The stadium was constructed between 1997 and 1999. The facility opened for operations in August 1999.

The stadium is owned by the City of Cleveland and leased to the Browns per the attached lease excerpt document included within Appendix C of this Report. The provisions of the lease contained within Appendix C are focused on the requirements related the Capital Repair Audit. Information includes relevant definitions of 'capital repairs', 'capital improvements', and other terminology that informs both the City and Browns as to their respective obligations.

The Lease also includes an explanation of the requirement for the City to conduct a Capital Repair Audit every five (5) years. The Audit must be performed by a qualified licensed engineer reasonably acceptable to the Lessee. The Audit shall report on the condition of the structure and capital components of the Leased Premises. The Report shall include suggestions for any current Capital Repairs that are necessary to the Leased Premises and the associated construction cost to implement those suggestions.

This Report as authored by Osborn Engineering is intended to satisfy the City's requirements per the Lease provisions contained within Appendix C and summarized above.

PLANGRID SOFTWARE DATA BASE

PLANGRID DATA BASE

This written 2018 Capital Repair Audit Report of FirstEnergy Stadium is to be considered as a complimentary document to the database contained within the PlanGrid software. At the City's request, Osborn Engineering's field survey information is documented and recorded within the PlanGrid software. This software provides detailed information of all capital repair work items for all disciplines. Information includes:

- Name of repair item
- Description of repair item
- Repair item identification number
- Location of repair item
- Quantity of repair
- Recommended time frame for repair implementation
- Budgetary construction cost based on repair recommendations
- Photographs of representative conditions

The reader is encouraged to review the information contained within PlanGrid to provide a comprehensive understanding of the extent of capital repairs required at FirstEnergy Stadium. The data base includes architectural backgrounds of all stadium floor levels as well as the site surrounding the Stadium. Each level is segregated into four (4) quadrants to ease in understanding what repairs are located in what room, space, etc.

Our field findings are recorded via color coded 'stamps' with each color representing a specific discipline. In addition, each discipline is further broken down into sub-categories to ease in organizing the large quantity of data.

Appendix B of this Report includes a description of each 'stamp' to aid in one making the transition from this written Report to the content contained within PlanGrid.

The Agreement between the City of Cleveland and Osborn Engineering includes provisions for access to a total of four (4) PlanGrid licenses for City use. Osborn Engineering also has a license to access software. These licenses are currently active allowing access to the PlanGrid data until the license expiration date of April 1, 2021. The City has subsequently provided two (2) of these licenses to the Cleveland Browns for their use until April 1, 2021. The City, Browns and Osborn Engineering can extend these licenses beyond the expiration date at their own cost if desired at a later date.

METHODOLOGY

METHODOLOGY

The Osborn Engineering Capital Repair Audit team consisted of the following members: Osborn's staff self-performed the assessment of the civil, architectural, structural, mechanical, plumbing, fire alarm, fire protection, technology and broadcast systems. Our EDGE sub-consultant, Behnke, provided the assessment of the landscaping surrounding the stadium. While our EDGE sub-consultant, Regency Construction Services was responsible for development of the budgetary construction cost information.

Both Osborn and Behnke visited the facility several times for each of the above disciplines. The site visits consisted of walking the stadium to identify required Capital Repairs. The observations were done of readily visible construction. There was only limited intent to observe partially concealed construction such as utilities located above ceiling tiles. There was no intent to conduct non-destructive or destructive testing of any kind. All field findings were recorded in PlanGrid.

The recommended Capital Repair tasks include both deterioration that is currently visible as well as consideration for future deterioration of the next ten years. This future system deterioration is based on the team member's experience with similar systems at other outdoor stadium venues. In addition, the team assessed the anticipated useful service life of equipment to inform the engineer on expected remaining life and necessary future replacement.

The visual observations were complimented by interviews of the stadium operation maintenance staff. These interviews proved invaluable in our effort to identify potential Capital Repair issues. The maintenance staff's day-to-day exposure to the various systems allowed us to conduct a more comprehensive assessment than would otherwise be possible.

Our team utilized existing reference drawings and published system reports to aid in our evaluation of all systems. It should be noted that Osborn Engineering was the structural engineer of record for the original stadium construction; as well as the engineer-of-record for the 2014 Phase 1 stadium renovation project. Many of the Osborn team members participating in this Audit were involved on those two projects. The inherent historical knowledge of the facility allowed the Osborn team to focus more heavily on specific building systems that likely required Capital Repair considerations.

Upon conclusion of the site investigations, the team reviewed the PlanGrid input and developed suggested repairs for each identified task. In addition, the team assigned repair implementation time frames to each item. The intent of assigning a time frame was to prioritize one repair versus another. The organization of the data in this manner will allow the City to formulate an informed Capital Repair Program for the next ten years. The following are the four (4) time frames used in the assessment. These time frames correspond with the four (4) periods included in the 2014 URS Capital Audit Report:

Immediate Repairs:	Year 0
Emergency Repairs:	Year 1
Material Repairs:	Years 2 – 5
Material Repairs:	Years 6 - 10

Each task was quantified and a construction cost assigned. The calculated cost was adjusted for inflation based on the recommended date of implementation.

Due to the sheer size of the stadium it was necessary to break the various systems into manageable sub-systems based on disciplines. The following discipline narratives were identified to clarify what Capital Repairs are needed for each system:

- Civil Narrative
- Landscape Narrative
- Architectural Narrative
- Structural Narrative
- Mechanical Narrative
- Plumbing Narrative
- Fire Alarm Narrative
- Fire Protection Narrative
- Electrical Narrative
- Technology Narrative
- Broadcast Narrative

Upon completion of PlanGrid input and also the written narratives, Regency Construction Services developed the construction costs listed in Appendix D.

CIVIL NARRATIVE

CIVIL NARRATIVE

Scope of Investigation
The civil audit consisted of the review of many items that comprise the site surrounding the stadium. The site includes the area from the outside wall of the stadium out to the curb on perimeter City roads. Below is a listing of the types of items surveyed and an explanation of their relative importance in maintaining a viable site for both the City of Cleveland and the Cleveland Browns. The actual condition of each item and recommendations for repair follow later within this Civil Narrative.

The civil evaluation is limited to the site surrounding the building itself. This evaluation does not include landscaping, planters, nor sprinkler systems. Those site related items are included within the Landscape Narrative.

As required within the Lease, we have provided a forecast of future deterioration based on our experience with concrete and joint material deterioration as well as our long history of identifying and repairing these site features surrounding the FirstEnergy Stadium structure. Please note that attempting to anticipate the level of deterioration over one year in the future is very subjective and highly dependent on the individual conducting the observations and that person's personal experience with the on-going deterioration of concrete and joint materials.

Individual structural items assessed within this section include:

General Repair Types
Patching: Includes the removal of loose, delaminated or spalled concrete surfaces on retaining walls, drive, plaza and sidewalk surfaces and other areas where the substrate is concrete.

Non-structural cracks: These types of cracks are generally are less than ¼" in width. These cracks are not considered to jeopardize the structural integrity of the overall concrete member. Instead, these cracks are addressed to prevent infiltration of water into the concrete substrate.

Structural cracks: These types of cracks do represent a structural concern that potentially can impact the structural integrity of the concrete member.

Guard rail posts: Includes the removal and replacement of concrete and/or sealant at the base of the guardrail post. Any concrete repairs would be similar in nature to the 'patching' of concrete as noted above. The sealant repair at the base of the post prevents water infiltration into the cold joint between the metal post and concrete.

Grinding of slabs: Includes the grinding of a concrete slab at a joint where one side of the joint sinks lower than the slab on the opposite side of the joint and is most common at slab-on-grade conditions. This repair eliminates a potential trip hazard.

Joint Repairs Types
Backer rod & sealants: Includes the removal and replacement of the backer rod and sealant within a joint opening at slabs or at walls.

Control joints: This scope includes the removal and replacement of sealants in non-structural preformed joints in slabs and walls. Control joints include construction joints and also joints strategically located to control shrinkage cracks during the original concrete curing process.

Observations
The deterioration of site concrete and joints as observed at FirstEnergy Stadium is consistent with a 20-year old exterior construction in northern climates. The annual varying temperatures along with abundant rain/snow experienced in Cleveland, Ohio contribute to accelerated deterioration over what one would experience in a more temperate environment. The following represent our findings based solely on visual observations of readily accessible construction. The scope of this audit did not include invasive exploration of existing construction nor testing of any materials.

It must be noted that the City and also the Browns have continually implemented annual concrete repair projects to address deterioration as it becomes visible. In addition, these renovation projects included pro-active measures to minimize or eliminate future deterioration that otherwise would have developed sooner at greater expense.

General Repair Types
Patching: The observed concrete spalls are found in varying locations including retaining walls, drives, sidewalks, plaza areas and curbs. In general the areas to be patched are partial depth and predominantly a result of the corrosion of the embedded steel reinforcing.

Non-structural cracks: The existence of these types of cracks are inherent in concrete construction. Therefore, it was anticipated that we observed non-structural cracks throughout the site. Most of the cracks could be found in cast-in-place walls, plaza areas and drives.

Structural cracks: These types of cracks typically result from unanticipated loads acting upon the structural member. We identified structural cracks in several of the concrete retaining walls. See Photo C-1.

Guard rail posts: We observed deterioration of the concrete at several guard rails posts atop retaining walls and edges of elevated plazas. Considering the number of guard rail posts on the site the number of observed failures is considered very low. See Photo C-2.


C1 - Typical Structural crack in retaining wall


C2 - Typical failed sealant at guardrail post

Grinding: Historically, there has been large areas of plaza that have settled over the past 20 years. Most of this settlement has occurred on the east and west plazas in the vicinity of the retaining wall. Several years ago a geotechnical investigation was launched to identify possible causes of the persistent pavement subsidence. The primary cause of the subsidence was inappropriate backfill materials and unconsolidated materials below the slab. The settlement of the plaza areas is not consistent from location to location. As a result, there are areas where a trip hazard has developed requiring remedial action.

Joint Repair Types

Backer rod & sealant: Typically sealant materials exposed to the environment and UV can be expected to have a useful service life of 7 to 10 years. As a result, the continual repair of such joints can be expected annually for the hardscaped areas surrounding the stadium. We did observed failed joint sealants in a variety of locations as anticipated. See Photo C-3.


C3 - Typical failed sealant on plaza

Control joints: Concrete construction inherently requires a large quantity of control joints to manage unavoidable shrinkage cracks. These joints are also necessary where one concrete pour ends and the next begins. Due to the large areas of open plaza there are a vast number of joints that require regular maintenance.

Discussion

The following narrative expounds on the above observations. This section includes commentary on the above observations, possible repair options, and repair/replacement recommendations. Continual repair of concrete and joints should be expected to occur annually. Left unattended, deterioration often continues to increase in size and correspondingly expenses. This on-going deterioration grows at an exponential rate resulting in higher life-cycle costs than if the repairs were implemented in a pro-active systematic manner. As stated above, the City and the Browns have implement annual repair programs to address not only visible deterioration but also in an attempt to arrest the on-going development of distressed structural components.

General Repair Types

Patching: As noted previously, the spalling of concrete is primarily attributable to corroding embedded reinforcing steel. The corrosion process increases the volume taken up by the corrosion by-product. This process can potentially increase the volume 7x the volume of the parent reinforcing steel. The resulting internal stress within the concrete is sufficient to induce micro-cracking off the concrete substrate. In turn, water infiltrates the crack to initiate further advancement of the corrosion process at an exponential rate. Repairing deteriorated concrete as it develops is the standard means to combat spalling concrete.

Non-structural cracks: The sealing of non-structural cracks is an example of proactive maintenance. Such action eliminates the infiltration of water into the crack thus preventing corrosion of reinforcing steel. The annual repair program should evaluate such cracks and consider the impact of any decision not to repair such cracks.

Structural cracks: As structural cracks appear they should be addressed on an annual basis. It is important to reestablish the full structural integrity of a concrete member. Typically, these cracks are filled with a specialized epoxy manufactured in a high viscosity liquid that can penetrate very fine cracks bonding the substrate together. Prior to any such repair, it is important to identify the likely cause of the structural crack. Without addressing this primary cause it can be expected that the crack will reappear in the near future.

Grinding of slabs: An uneven slab surface across a concrete joint can become a potential trip hazard. Each occurrence should be evaluated to access the safety risk that exists. When necessary the concrete on the 'high' side of the joint should be ground down to provide a relatively smooth transition across the walkable area.

Joint Repairs Types

Backer rod & sealants: Due to the relatively short useful lifespan of joint materials it can be expected to be an on-going maintenance issue in this area of the country. The repair detail must consider the width of the joint opening and possible movement of the structure on each side of the opening. It is important to detail and construct the joint accordingly in order to maximize the useful service life of the repair.

Control joints: Due to the very high quantity of control joints at the site surrounding the stadium, it is an on-going maintenance effort to prevent water infiltration through the joint opening. While the cost per foot to repair these joints is relatively minor the excessive quantity of joints can result in a significant annual expense.

Recommendations

As noted previously, the City of Cleveland in conjunction with the Cleveland Browns have implemented a series of annual structural repair projects over the past number of years. These repairs have been successful in managing the expected on-going deterioration on the site. Without such action, the quantity of deterioration and the scope of distress would undoubtedly been much greater than we observed as part of this Audit process.

We recommend that annual repairs continue to proceed for the foreseeable future because it should be fully expected that deterioration of concrete and joints will continue. The on-going pro-active approach to addressing repairs as identified annually is the most appropriate tactic and best use of available funding.

CIVIL | COST ESTIMATE		
Immediate	0 Year	$0
Emergency	0-1 Years	$140,000
Capital Repair	2-5 Years	$231,000
Capital Repair	6-10 Years	$583,000

LANDSCAPE NARRATIVE

LANDSCAPE NARRATIVE

Scope of Investigation
The audit of the landscaping components of the facility is divided into the following categories:

- Trees and Mulch
- Shrubs including Ornamental Grasses
- Groundcover
- Annuals/Planters
- Turf/Lawn and Fine Grading
- Irrigation System

Each category was observed by the Osborn team and is described in its own narrative section below.

Description of System

Irrigation System

The irrigation system has three points of connection at the northeast, southwest, and northwest corners of the stadium. Each point of connection has a 4" main and a controller. Zones basically consist of pop-up rotary sprinklers in lawn areas and pop-up spray sprinklers in shrub and groundcover beds. Control wires follow the main pipe in conduit back to each controller. Main pipes (2" or larger) are buried 30" deep and all other pipes are buried 18" deep.

Observations

Trees and Mulch

When opened in 1999 the Stadium had well over 300 trees planted. Today, approximately one-third of these trees remain. This means that the half-life of the trees has been approximately 15 years. This suggests that in another ten years (Year 2029) most of the remaining trees will be at the end of their useful life.

To reduce the cost of a total replant in ten years, measures need to be taken soon to extend the remaining trees that are desirable. The most desirable remaining trees consist of the Autumn Blaze Maples on the west and east sides of the stadium and the Ginkgo trees on the south side of the stadium. Less than half of the remaining trees on the property are desirable and most of them should systematically be replaced. Additionally, many of the now missing trees need to be replanted.

Nearly all of the remaining trees are over-mulched. See Photo L1. This has and will continue to result in root girdling of the trees and their quickened demise.

L1 - Over-mulching around trees

Shrubs including Ornamental Grasses

The only significant remaining beds of shrubs are at the southwest and southeast stadium entrances. These beds consist of Little Princess Spirea and a yew hedge. The Little Princess Spirea are likely at the end of their useful life. They have become quite leggy with lots of dead wood on them. See Photo L2. If they were severely cut back the Spirea might come back with renewed vigor in a couple of years, but it is not worth the effort.

Other shrubs planted originally in 1999 have mostly disappeared around the stadium. Disruption to the beds on the north side of the stadium to waterproof the basement wall have left these shrubs in disarray. Remaining shrubs on the north half of the building are in poor condition and should be removed and/or replaced.

Groundcover

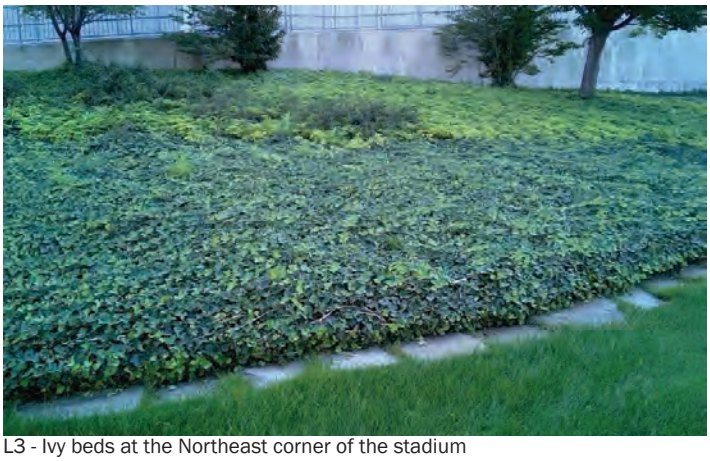
The extent of groundcover has been greatly reduced since the stadium was originally planted in 1999. As noted below, the removal of the plants beds as a memorial to the Donald Gray Gardens has resulted in removal of much of the groundcover on the north side of the stadium. Ivy beds still exist on the west side of the stadium and the northeast corner of the stadium. See Photo L3. Liriope exists in the walled planter south of the stadium and in the bed just north of the southeast entrance gate. See Photo L4.

Annuals/Planters

Annuals are grown in permanent beds flanking the monumental stairway on the north side of the stadium. Additionally, they are present in the large, circular, precast concrete planters surrounding pedestrian entry points to the stadium. See Photo L5. The presence of these precast planters is a result of increased security measures taken after 2001.

The four, square planters and the planter curb around the Gingko trees on the south side of the stadium were previously flagged in the URS 2014 Audit for repair within five years. See Photo L6. These repairs have still not occurred.

L2 - Little Princess Spirea in poor conditionfixture in concourse



L3 - Ivy beds at the Northeast corner of the stadium

L5 - Precast concrete planter bed

L4 - Liriope in planter bed

L6 - Planter bed precast concrete coping - poor condition

Turf/Lawn and Fine Grading

The lawn outside the stadium is in good condition. There are several areas in the lawn where the earth has subsided and left a significant depression, typically where a utility line has been installed or altered. Some of these low areas are in excess of 6". The dead lawn areas should be scarified with a rake, top-dressed with 1" of topsoil, then reseeded and mulched with straw.

Irrigation System

A visual observation was completed for the entire exterior system while in operation. The irrigation system is in fair condition. The majority of the system requires only a small amount of immediate action. There are minor adjustments to the fixtures which should occur during the routine maintenance of the irrigation system (0-0 years). There are areas within the beds and turf that are not irrigated as intended by the sprinklers which, in some cases, is due to the vegetation that has become overgrown adjacent to the sprinkler heads.

Larger concerns about the irrigation system center around aging components such as valves, sprinklers, and controllers. For example, the bronze GB solenoid valves originally specified for the project are no longer available, making parts replacement difficult. Similarly, the sprinkler models have changed. One of the rotor sprinklers originally specified for the project (T-6) is no longer manufactured. Two out of three of the controllers are not operating correctly and they are now considered old technology for large irrigation systems. See Photo L7. Today, two-wire control systems are much preferred that have ET capabilities.

L7 - Existing irrigation controller

Finally, some components are just worn out or missing or not working. For example, manual gate valves are not properly closing. Pipe leaks have become increasingly evident. Quick coupler valves are no longer used. The bed on the northeast corner of the stadium does not get irrigated any more. Similarly, the area against the northeast wall was recently waterproofed and the irrigation system has not been reinstalled as part of that work. It should remain a goal to provide "head to head" spacing for the irrigation system.

Discussion

In general, landscape areas (including irrigation) around the stadium are in fair condition. There are significant tasks that will be necessary over the next 0-5 years with a smaller amount of work that will be necessary over the subsequent 6-10-year period. There is a large amount of missing or dead plant material that should be, at least, partially replaced. The lawn areas outside the stadium are in good condition with only minor bare spots requiring repair seeding. Additionally, there are several lawn areas that have low spots (in excess of 6") near adjacent walking surfaces that will require immediate repair due to safety concerns (trip hazards).

The biggest question about the landscape is "Why has so much of it disappeared since the stadium opened in 1999?" As originally conceived, the area north of the stadium was originally a terraced garden as a memorial to the Donald Gray Gardens that had resided there since 1936. Most of these plantings, including the terraces, have recently been removed to waterproof the north side of the stadium basement wall and not been replaced. In this same area, two semi-permanent event tents have been erected resulting in lost greenspace.

Similarly, the roads ringing the stadium were planted with street trees initially. These trees have been removed as part of the City of Cleveland's program to preventatively eliminate ash trees beginning in 2013. Subsurface installation of an electric utility disrupted many of the Crabapple trees on the south side of the stadium leading to their demise. New stairways at the east and west end of the field have resulted in lost trees. Finally, new security measure implemented since 2001 have generally resulted in removing vegetation near the building structure.

Recommendations

Trees and Mulch

Priority (2-5 years) should be given to replacing remaining trees that are wind swept (leaning) and/or suffering and dying. Chief among these are Blue Spruce, Crabapples, Pines, and Magnolia trees. Other plants, such as the Redspire Pear trees are now considered to be invasive and should be replaced. Some replacement Elm trees planted around the chillers are inappropriate in this location and should be replaced.

Replanting of missing trees is of lower priority (6-10 years). Furthermore, given new security concerns, the total number of trees should be reduced to no more than 200. However, if new tree plantings do not begin within the next 10 years, it is likely that there will be very few trees left on the site by 2030.

As an emergency repair (0-1 years), the remaining Ginkgo and Autumn Blaze Maples should be air-spaded and root pruned to reverse tree girdling. Subsequently, hardwood mulch should be re-applied to a maximum 3" depth allowing the root flare to be observable on these trees.

Shrubs including Ornamental Grasses

Serious consideration must be given to totally eliminating the remaining beds originally planted on the north side of the building. For all intents and purposes, the intended acknowledgement to the Donald Gray Gardens no longer exists. If this intention is no longer desirable, then a simplified landscape design consisting primarily of lawns and trees should be considered for the north side of the stadium. This decision and action should be made a priority within a 2-5-year period.

A more interesting planting and/or hardscape should be provided for the two Spirea planters on the high profile, southern corners as an emergency repair (0-1 years). Blue Lyme Grass planted as infill around the Chillers is considered invasive in Wisconsin and Michigan and should be removed as an emergency repair (0-1 years). A new planting plan for the Chiller area needs to be developed as a priority within a 2-5-year period.

Groundcover

Given new security measures at the stadium, it would be best to remove most of the groundcover beds around the stadium. These beds have become 1) places to hide items that cannot be passed through the security gates, as well as 2) maintenance problems as the ivy tries to climb up the concrete retaining walls. This removal would occur in conjunction with the shrub removal discussed about (2-5-year period).

Similarly, the liriope in the square and/or rectangular planters has become a place to hide discarded items that cannot pass through the security gates. A low growing carpet rose might serve as a better deterrent as a hiding place. These areas should be changed out when the Redspire Pear trees are replaced in the 2-5-year period.

Annuals/Planters

Annuals have limited impact during the football season when the stadium is mostly in use. Therefore, their use should also be limited. Furthermore, maintaining the annuals in the precast planters is a huge expense as they need daily attention during the hot summer months.

Consideration should be given to eliminating the precast planters and replacing them with crash-rated bollards. The bollards could be smaller in scale than the planters and perhaps very customized. The remaining permanent flower beds on the north side should become a mixture of shrubs, perennials and annuals that would require less maintenance and extend the season of interest.

As some of the precast concrete planters are beginning to crack, it should be a priority to replace them within the 2-5-year window. The broken coping corners on the square planter planters create a safety hazard and should be replaced immediately (0-0 years). The broken planter curb should be done as an emergency repair (0-1 years).

Turf/Lawn and Fine Grading

The low areas should be filled to proper grade or slightly above with topsoil, then re-seeded and mulched with straw as an emergency repair (0-1 years).

Irrigation System

It is recommended that immediate repairs (0-0 years) be made to broken and/or missing pipes and sprinklers. Emergency repairs (0-1 years) should be undertaken to replace two 4" manual gate valves, brass solenoid valves, and 3 controllers. A single controller with two-wire and ET capabilities should replace the existing controllers.

The priority 2-5-year period should replace remaining pop-up spray sprinklers and discontinued T-Bird rotor sprinklers. Longer term improvements (6-10 years) will focus on replacing lateral pipes (less than 2" size) and any remaining sprinklers, including 6504 rotors. Beyond 10 years, the irrigation main pipes (2" to 4" size), will need to be replaced.

LANDSCAPE | COST ESTIMATE		
Immediate	0 Year	$52,900
Emergency	0-1 Years	$74,172
Capital Repair	2-5 Years	$463,773
Capital Repair	6-10 Years	$83,503

ARCHITECTURAL NARRATIVE

ARCHITECTURAL NARRATIVE

Scope of Investigation
The Audit of the Architectural components of the facility were organized into the following categories:

- Exterior Envelope
- Concourse Areas
- General Seating
- Vertical Transportation
- Suites
- Food Service Areas
- Miscellaneous Spaces

Each of these categories were observed by the Osborn team. Each group has its own Narrative section below.

The assessment of these categories is based upon visual observation of the identified areas, systems, and equipment. The assessment services were limited to a visual survey of existing conditions and discussions with facility personnel. Destructive and non-destructive testing are excluded.

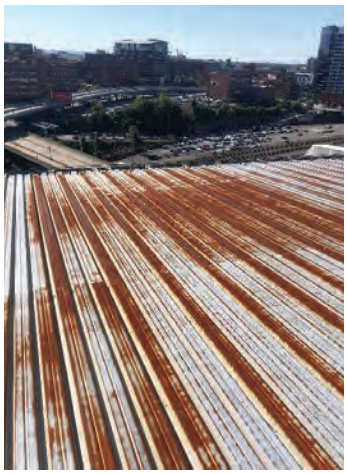
EXTERIOR ENVELOPE

Description of System
The exterior envelope includes roofing, granite base panels, aluminum curtainwall/glazing systems, and metal panels.

Observations
Roofing consists of single-ply membranes and metal standing seam deck. The membrane roofs are located at the Club and Upper Concourse Areas. The metal roofing is located on the canopies above the Upper Deck Seating Areas and consists of galvanized metal decking. Observed conditions of the membrane roofing showed no signs of leaking. See Photo A1. Parapet caps and sealant appear weathertight. Flashing and seams appear undamaged. No major water ponding was seen. Some roof areas had collected debris at the perimeter of roof drains. Surface rust was observed on roughly 30 to 40% of the metal roofing above the north Upper Deck Seating Area. Material loss of the decking was not seen. See Photo A2.

The granite panels are located at the base of the exterior wall. The panels are generally in good condition. However, there are specific locations where the granite was cracked. Repairs are intended under a separate scope of work and therefore have not been included in this assessment.


A1 - Typical single-ply membrane roof


A2 - Metal roof above upper deck seating

The aluminum curtainwall systems and metal panels are located on various portions of the exterior. Majority of curtainwall, with related glazing systems, and metal panels were observed. Aluminum finish is in good condition. No signs of moisture intrusion or gasket failure was observed with the glazing system. Perimeter and joint sealants appear weathertight and undamaged.

Discussion
The exterior envelope is in good condition, acceptably weathertight, and performing as designed

The single-ply membranes are generally in good condition. These roofs are at the end of their assumed 15 to 20 year warranty period and should be monitored as part of a routine maintenance plan. Collected debris should be removed. The metal roofing above the upper deck seating areas should be replaced. See the Structural Narrative of this report for additional metal canopy roofing suggestions and recommendations.

The curtainwall framing, glazing system, and metal panels are in good condition and weathertight. Similar to the membrane roofing, the sealant at the perimeter of the curtainwall framing and at the joints of the metal panels should be monitored as part of a routine maintenance plan.

Recommendations
Replace metal roofing above north and south upper concourse seating within 6-10 year time frame. Metal roofing should be monitored within 2-5 year time frame.

ARCHITECTURE | COST ESTIMATE		
Replacement of the metal roofing above upper deck seating:		
Capital Repair	6-10 Years	$796,320

CONCOURSE AREAS

Description of System

The concourse items assessed include doors and frames, concrete masonry walls, concrete floor slabs, and supporting structure located at the Main, Club, and Upper Concourse levels. Included in this portion of the evaluation are the perimeter security entrance gates located at the main concourse level.

Observations

Both hollow metal and aluminum storefront doors and frames on all concourse levels are generally functioning with hardware in fair condition. See Photo A3. On the Main and Upper Concourse levels roughly 30% of the hollow metal door frames are rusted at the base. See Photo A4. An estimated 30% of the hollow metal doors are misaligned and do not latch properly. Concession overhead coiling doors have visible weathered surfaces with apparent exterior face rust developing. The perimeter entrance gates at the main concourse level have surface rust developing. The gate hinges are rusting. And related cane bolts/drop rods are damaged and/or missing. See Photo A5.

Concrete masonry unit walls defining the main circulation hallways and paths were observed. Walls were generally found to be in good condition. Majority of mortar joints were undamaged. Coverage and quality of the painted finish was good. Control joints were sealed. In the Service and Main Concourse areas, some step-cracking in the mortar head and bed joints were observed. See Structural Narrative of Report for related additional information.

See Structural Narrative of Report for elevated concourse floors/decks and supporting structure.

Discussion

The door assemblies are heavily used, and in the open concourse areas, are exposed to the weather. Rusting hollow metal door frames with associated door should be replaced. Misaligned doors can be adjusted in the short term and do not need replacement. Overhead coiling door assemblies are at the end of a 20 year cycle.

All cracks found in non-bearing concrete masonry unit walls should be tuck-pointed. See Structural Narrative of assessment for related additional information.
Also, see Structural Narrative of assessment for elevated concourse floors/decks and supporting structure.

Recommendations

At the Main, Club, and Upper Concourse levels, replace all hollow metal door assemblies with hardware over 6-10 year time period. Overhead coiling door assemblies at concession areas on Main, Club, and Upper Concourse levels should be replaced over 6-10 year time period. Repaint the perimeter security entrance gates at the main concourse level within the next year. Replace all gate hardware.

A3 - Typical hollow metal door assembly

A4 - Typical hollow metal door rusting at base

A5 - Typical security gate hardware (damaged cane bolt)

ARCHITECTURE | COST ESTIMATE		
Replacement of hollow metal door assemblies in concourse areas:		
Material Repair	2-5 Years	$2,035,991
Capital Repair	6-10 Years	$349,575
Replacement of overhead coiling door assemblies:		
Capital Repair	6-10 Years	$335,750
Repaint perimeter security gates and replace all related hardware:		
Emergency Repair	0-1 Years	$25,200
Material Repair	2-5 Years	$92,400

GENERAL SEATING

Description of System

The general seating was visually assessed on a sample basis. Roughly 15-20% of the seating located in each quad of the Upper Bowl, the Club Level, and the Lower Bowl sections were observed.

Observations

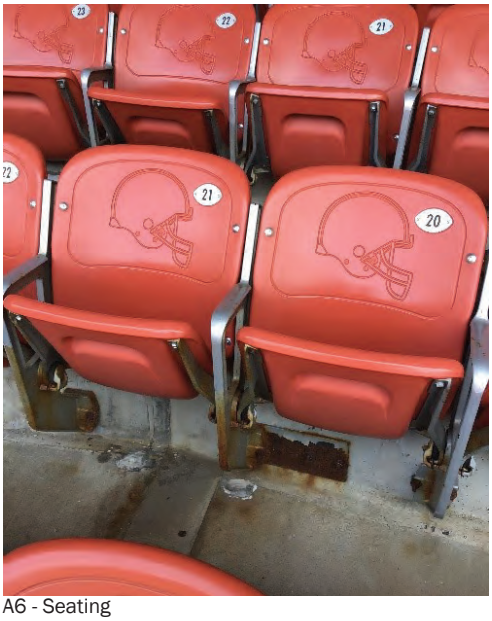
Seating in the Upper Bowl is generally in good condition. No rust or seat spring failure was observed. In the Club Level and Lower Bowl sections, rust is present on standard feet and bases. Seat standards have spring failure. Fading of the seat color is clearly visible. Within the percentage of seats assessed, none were found to be loose from the concrete deck. Seating was secure. See Photo A6. Seating in the "Dawg Pound" area of the lower bowl level consists of aluminum bench seating, both new and old. Paint is flanking off new benches in several locations. Seating was secure to concrete deck. See Photo A7.

Discussion

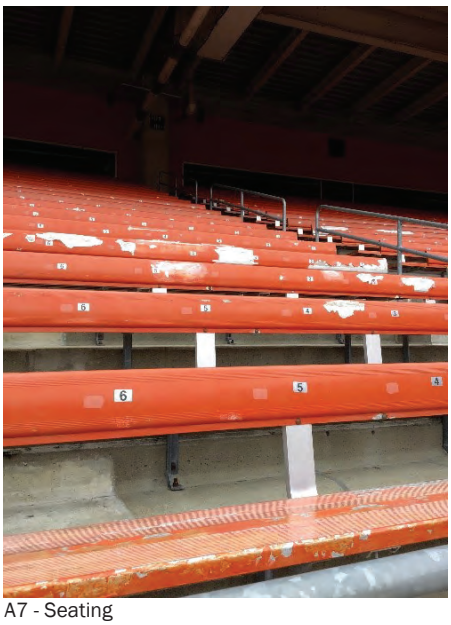
The Upper Bowl seating is in better condition compared to the remaining areas. These seats have been replaced in the recent past. Club Level and Lower Bowl can be refurbished or replaced. As part of a seating refurbishment process, the plastic seats, springs, and mounting bolts can be replaced. Given the condition of the seats in these sections, complete replacement is a better option. Bench seating in the Dawg Pound area can be repainted.

Recommendations

Replace seats within the Club Level and Lower Bowl sections over 6 – 10 year time frame. Seating in the Upper Bowl areas should be monitored for rusting, spring failure, and bolt fastening to deck condition. Dawg Pound benches should be repainted within 6 – 10 year time frame.



A6 - Seating



A7 - Seating

ARCHITECTURE | COST ESTIMATE		
Replace seating in the Club Level and Lower Bowl sections:		
Capital Repair	6-10 Years	$13,746,000
Repaint the seat benches:		
Capital Repair	6-10 Years	$31,600

VERTICAL TRANSPORTATION

Description of System

Vertical Transportation includes the elevators, escalators, and enclosed stairwells.

Observations

Assessment of the elevators is based on a prior report by Osborn Engineering in conjunction with KONE, who currently maintain the elevators. The escalators were not part of this assessment scope, and are not addressed in this valuation. Osborn Engineering report, dated October 12, 2015, Revised December 11, 2018, regarding "Elevator Assessment" has been attached as a supplementary document. Reference Appendix A. In addition, KONE has assessed nine public passage elevators. Interior finish upgrades are recommended. The kitchen elevator, not used by the general public, is not included. All enclosed stairwells were observed. Entry/exist hollow metal doors and frames are functioning with hardware in good condition. The hollow metal door frames are rusted at the base. Doors show signs of heavy use. Denting and damage to the door faces were common. Stair assembly miscellaneous metal components have surface rust developing. Typical areas include the stair risers and underside of stair landings. The stair enclosure roof joists and metal decking also have surface rust emerging.

Discussion

Interior finish upgrades to the passenger elevators include new cab interior panels and full Renova door operating packages. Dedicated circuits for the elevator cars A/C, providing A/C for each existing machine room, and updating machine room lighting are included. Reference Appendix A for complete discussion.

The entry/exit door assemblies at the enclosed stairwells are heavily used, and in the open concourse areas, are exposed to the weather. Rusting hollow metal door frames with associated door should be replaced. The amount of rusting observed on the stair and roof assemblies requires only spot repair. It is surface rust developing and does not require full painting of the entire stair and roof system.

Recommendations

Reference Appendix A for complete recommendations.

Replace all hollow metal door assemblies with hardware at the enclosed stairwell locations over 2-5 year time period. Repaint stair and roof areas where surface rust is developing.

ARCHITECTURE | COST ESTIMATE		
Upgrade elevators per Appendix A:		
Capital Repair	2-5 Years	$1,515,500
Note: 40% markup included due to capital repair timeline. Costs shown in Appendix A do not include markup.		
Replace hollow metal door assemblies at all enclosed stairwells, repaint stair roof assembly areas, including miscellaneous associated repairs:		
Capital Repair	2-5 Years	$655,890

SUITES

Description of Service

The suites are located on the lower and upper levels. Suite balconies, and related seating, suite corridors, and elevator lobbies are included.

Observations

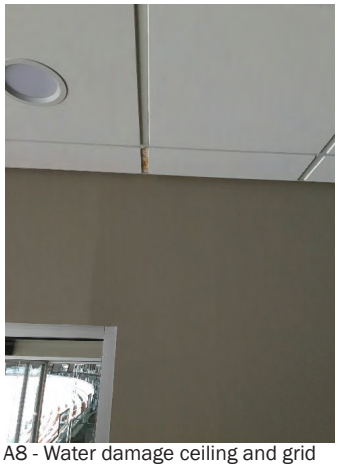
Every suite was observed and assessed separately to identify work related to floors, walls, and ceilings. The suites, related corridors, and elevator lobbies are all in overall good condition. A large number of suites observed had new floor, wall, and ceiling finishes. Suites were observed to be very well maintained. The suite doors and related hardware are in good condition. Frames show minor signs of normal wear. Flooring, in suite corridors and elevator lobbies, had recently been replaced and is in excellent condition. Within several individual suites, specifically on the upper level, minor water damage to the finish ceiling was observed. Water staining to the ACT panels and rusting of the ceiling grid was common. See Photos A8 & A9. On the exterior balconies, ponding water was present. Underside of concrete deck had water stained areas. Exposed structural steel was rusting. The seating in the exterior balconies had visible rust on standard feet and bases. Seat standards have spring failure and damaged vinyl covering was observed on roughly 10 to 15% of the balcony seats. See Photo A10.

Discussion

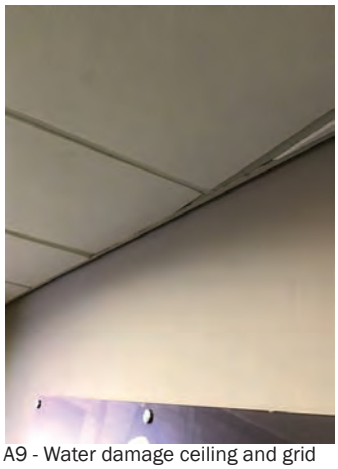
The water damage observed to the finish ceilings in the individual suites can be caused by condensation buildup on above ceiling mechanical unit and chilled water piping. Refer to Mechanical Narrative for additional information. Open sealant joints and cracking of the concrete deck can be contributing to the water staining and rusting steel observed on the suite balconies. See Structural Narrative for additional information regarding open sealant joints, crack repair, and steel refinishing. Balcony seating at the individual suites are original and should be improved. As part of a seating refurbishment process, the seats, springs, and mounting bolts can be replaced. Given the age of these seats, complete replacement is a better option.

Recommendations

Within the next year, investigate issue causing condensate buildup and repair per mechanical suggestions. Address open sealant joints and cracks in the upper concourse deck per structural recommendations. Replace damaged finish ceilings and grid in the disturbed areas. Over 6 – 10 year time period, replace seating in the exterior balconies.



A8 - Water damage ceiling and grid



A9 - Water damage ceiling and grid

A10 - Seating at suite balconies

ARCHITECTURE | COST ESTIMATE		
Replace damaged ceilings and grids, including miscellaneous associated repairs:		
Immediate	0 Years	$31,892
Replace seating in the exterior balconies:		
Capital Repair	6-10 Years	$2,133,000

FOOD SERVICE AREAS

Description of System

Food Service Areas include concourse concessions, kitchen areas, and adjacent/related storage. These areas are located on all levels of the stadium.

Observations

All food service areas were observed and assessed separately to identify work related to floors, walls, and ceilings. Food service equipment was not part of the assessment scope, and is not addressed in this report. Majority of the food service areas appear to be original construction. Upgrades were observed in specific concession areas based on marketing preference of the food and beverage provider. Floor finishes vary from sealed concrete, epoxy resin, and tile. Concrete floors appeared to be in good condition with no cracking. Tile in limited areas was cracked. Epoxy flooring was damaged in some areas, pulling up, and exposing the concrete slab underneath. See Photo A12. Majority of wall finish is fiberglass reinforced panel. The panels appeared in fair to good condition. Finish ceilings are 2'x2' and 2'x4' ACT. Limited areas are open to the structure above. Majority of the finish ceilings in concession and kitchen areas are in poor condition.

Discussion

Majority of the food service areas appear to be original construction. The sealed concrete and tile floor finishes can be maintained with routine/normal maintenance. Damaged tile should be replaced. Epoxy flooring should be repaired/ replaced. Finish ceilings should be replaced.

Recommendations

Maintain sealed concrete and tile floor finishes with routine/ normal maintenance. Over 6 – 10 year time period, epoxy flooring and finish ceiling should be replaced.

A11 - Epoxy floor in kitchen area

A12 - Finish ceiling in kitchen area

ARCHITECTURE | COST ESTIMATE		
Repair / Replace finish flooring, including miscellaneous associated repairs:		
Capital Repair	6-10 Years	$164,211
Replace finish ceilings, including miscellaneous associated repairs:		
Capital Repair	6-10 Years	$159,540

MISCELLANEOUS SPACES

Description of Service

Miscellaneous Spaces involve the service level corridors, service level offices, housekeeping areas, and janitor rooms.

Observations

All miscellaneous spaces were observed and assessed separately to identify work related to floors, walls, doors & frames, and ceilings. Floor finishes in these spaces vary from sealed concrete in the service level corridors, to epoxy flooring in janitor rooms, to carpet and VCT in the service level offices. Finish flooring appeared to be in fair to good condition. Wall finishes include painted CMU in the service level corridors and related spaces, and painted gypsum board in the offices areas. Water damage was clearly visible on the wall surfaces in the service level offices located in the southeast portion of Quad A. Worst case was seen in the finance office. This was a consistent observation in the service level areas of Quads A and D. See Photos A13 & A14. Ceiling material and finish varies in the miscellaneous spaces from unpainted concrete structure to 2'x2' and 2'x4' ACT with suspended grid. Similar to the walls, water damage was observed to the 2'x2' and 2'x4' ACT finish ceilings. This damage was adjacent to and in the same areas having wall damage described above. In a few areas having no finish ceiling, insulation was missing, damaged, and/or deteriorating.

Hollow metal doors and frames in the service level corridor are in fair to poor condition. Door and frames show signs of heavy use. Majority of doors observed are dented, misaligned, and do not close or latch correctly.

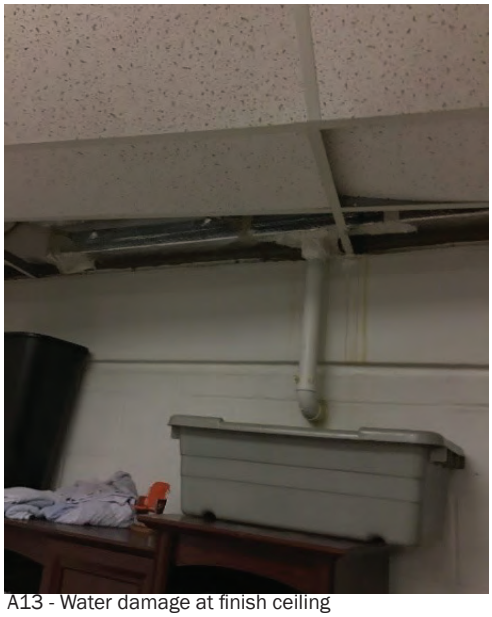
Discussion

Majority of the miscellaneous spaces appear to be original construction. The sealed concrete and epoxy floor finishes can be maintained with routine/normal maintenance. The water damage to the finish ceilings and walls could be caused from the blocked/damaged gutter and draining system located in the concrete deck above. Open sealant joints and cracking of the concrete deck can be allowing additional water into the service level spaces. See Structural Narrative for additional information.

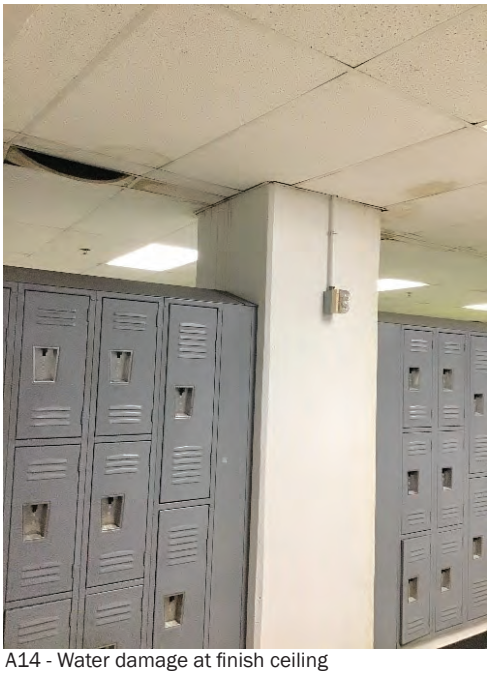
The door assemblies in the service level are heavily used throughout the year and are exposed to equipment damage. Damaged doors with associated hardware should be replaced. Misaligned doors can be adjusted in the short term and do not need replacement.

Recommendations

Maintain sealed concrete and epoxy floor finishes with routine/normal maintenance. Within the next year, wall finish should be repaired, and finish ceilings should be replaced. Replace hollow metal doors with associated hardware throughout the service level, quads A, C, and D over 6 – 10 year time frame.



A13 - Water damage at finish ceiling



A14 - Water damage at finish ceiling

ARCHITECTURE | COST ESTIMATE		
Replace the finish ceilings and repair the wall finish, including miscellaneous associated repairs:		
Emergency Repair	0-1 Years	$82,618
Replace hollow metal doors and hardware, including miscellaneous associated repairs:		
Material Repair	6-10 Years	$349,575

STRUCTURAL NARRATIVE

STRUCTURAL NARRATIVE

Scope of Investigation

The structural audit consisted of the review of many items that comprise the structural system at the stadium. Below is a listing of the types of items surveyed and an explanation of their relative importance in maintaining a viable venue for both the City of Cleveland and the Cleveland Browns. The actual condition of each item and recommendations for repair follow later within this Structural Narrative.

The structural evaluation is limited to the building itself. This evaluation does not include site retaining walls, drives, sidewalks, etc. Those site related items are included within the Civil Narrative.

As required within the Lease, we have provided a forecast of future deterioration based on our experience with structural deterioration as well as our long history of identifying and repairing the FirstEnergy Stadium structure. Please note that attempting to anticipate the level of deterioration over one year in the future is very subjective and highly dependent on the individual conducting the observations and that person's personal experience with the on-going deterioration of concrete, steel, and joint materials.

Individual structural items assessed within this section include:

General Repair Types

Patching: Includes the removal of loose, delaminated or spalled concrete surfaces on seat decks, vomitories, slabs, walls and other areas where the substrate is concrete.

Non-structural cracks: These types of cracks are generally are less than ¼" in width. These cracks are not considered to jeopardize the structural integrity of the overall concrete member. Instead, these cracks are addressed to prevent infiltration of water into the concrete substrate.

Structural cracks: These types of cracks do represent a structural concern that potentially can impact the structural integrity of the concrete member.

Guard rail posts: Includes the removal and replacement of concrete and/or sealant at the base of the guardrail post. Any concrete repairs would be similar in nature to the 'patching' of concrete as noted above. The sealant repair at the base of the post prevents water infiltration into the cold joint between the metal post and concrete.

Seat deck steps: Occasionally, the concrete steps in the seat deck aisles begin to deteriorate requiring the replacement of the step. This item is similar to the above concrete repair at guard rail posts.

Grinding of slabs: Includes the grinding of a concrete slab at a joint where one side of the joint sinks lower than the slab on the opposite side of the joint and is most common at slab-on-grade conditions. This repair eliminates a potential trip hazard. This type of repair is more common on the site surrounding the stadium and is therefore included in the Civil Narrative as well.

Masonry: This scope includes masonry block repairs at vomitory entrance walls. Additional masonry repairs throughout the stadium are included within the Architectural Narrative.

Joint Repairs Types

Backer rod & sealants: Includes the removal and replacement of the backer rod and sealant within a joint opening at slabs or at walls.

Cove joints: This scope is very similar to the above backer rod & sealant with the sole difference being cove joints are located at the interface of horizontal and vertical surfaces.

Precast joints: Includes the removal and replacement of preformed joint sealants designed for stepped tread & riser installations.

Sealant plugs: Includes the removal and replacement of sealant within a depressed void in precast tread. The void resulted at the precast embedded pick-point used during the original installation of the precast unit.

Control joints: This scope includes the removal and replacement of sealants in non-structural preformed joints in slabs and walls. Control joints include construction joints and also joints strategically located to control shrinkage cracks during the original concrete curing process.

Ramps / Bridges / Ramp Landing Repair Types

Slab and metal deck: This scope includes the removal and replacement of ramp slabs, metal floor deck and removal/ reinstallation of guardrails.

Removal of loose deck: Includes the removal of relatively small pieces of heavily corroded metal floor deck from the underside of the ramps. Removal is deemed necessary to prevent the corroded piece from dislodging and falling to the ramp slab below.

Steel frame reinforcement: Occasionally, the metal floor deck corrosion has grown in area to where it eventually becomes necessary to locally reinforce the slab to ensure structural integrity of the ramp.

Carbon fiber reinforced polymer (CFRP): This scope includes the installation of strips of CRFP to locally replace the tensile capacity of the failed metal floor deck.

Superstructure Repair Type

Touch-up painting: This scope includes the touch-up of the high performance paint coating system on the building's structural steel frame. The repair prevents further corrosion of the steel and secondarily addresses aesthetic issues where the corroding steel begins to discolor the adjacent painted surfaces.

Observations

The deterioration of concrete, joints, ramps and superstructure as observed at FirstEnergy Stadium is consistent with a 20-year old outdoor stadium in northern climates. The annual varying temperatures along with abundant rain/snow experienced in Cleveland, Ohio contribute to accelerated deterioration over what one would experience in a more temperate environment. The following represent our findings based solely on visual observations of readily accessible construction. The scope of this audit did not include invasive exploration of existing construction nor testing of any materials.

The individual repair types are commonly found throughout the exposed areas of the stadium's seat deck and concourse areas unless specifically noted otherwise.

It must be noted that the City and also the Browns have continually implemented annual concrete repair projects to address deterioration as it becomes visible. In addition, these renovation projects included pro-active measures to minimize or eliminate future deterioration that otherwise would have developed sooner at greater expense.

S1 - Typical Spalled Concrete

General Repair Types

Patching: The observed concrete spalls are found in varying locations including tread & risers, vomitory walls, and curbs. In general the areas to be patched are partial depth and predominantly a result of the corrosion of the embedded steel reinforcing. Some areas of failed concrete can be found immediately adjacent to a failed joint sealant. The infiltration of water into a failed sealant allows for additional moisture to advance to the reinforcing steel accelerating overall deterioration. See Photo S1.

S2 - Typical Cracked Concrete

Non-structural cracks: The existence of these types of cracks are inherent in concrete construction. Therefore, it was anticipated that we observed non-structural cracks throughout the stadium. Most of the cracks could be found in cast-in-place walls and concourse slabs. The extent of non-structural cracks in the precast seat deck was predictably less because the pre-stressed precast was fabricated under controlled environmental conditions thus minimizing the existence of tensile forces that induce such cracking. See Photo S2.

Structural cracks: These types of cracks typically result from unanticipated loads acting upon the structural member. We identified structural cracks in varying locations throughout the building. Typical locations included elevated concrete slabs and cast-in-place walls. However, the quantity of structural cracks in the building were far less than the number of observed non-structural cracks.

Guard rail posts: We observed deterioration of the concrete at several guard rails posts at both vomitory walls as well as in the seat deck aisles. Considering the number of guard rail posts in the stadium the number of observed failures is considered very low. See Photo S3.

S3 - Typical Concrete Damage at Guard Rail Post

Steps: The steps located within the seat deck aisles often include an embedded guardrail post. As noted above there are locations where the concrete surrounding the post has cracked resulting in the need to replace that step. See Photo S4.

Grinding: Because the vast majority of the slabs in the building are elevated slabs there is little opportunity for uneven slab surfaces to develop. This condition is more commonly experienced in slab-on-grade construction. Therefore, the quantity of slab surfaces requiring grinding is very minimal.

Masonry: We observed localized failure of masonry in several of the vomitory entrance walls. The failure consists of cracked cmu block. It appears as if the cracks originated from unanticipated load from the precast seat deck unit above. See Photo S5.

Joint Repair Types

Backer rod and sealant: Typically sealant materials exposed to the environment and UV can be expected to have a useful service life of 7 to 10 years. As a result, the continual repair of such joints can be expected annually for the life of the stadium. We did observed failed joint sealants in a variety of locations as anticipated. It should be noted that a significant quantity of repair is located behind the fixed seats throughout the seating bowl. Removal and reinstallation of the seats is time consuming and likely will necessitate replacement of the removed 20-year old fixed seats. See the Architectural Narrative for additional information on fixed seat replacement. See Photo S6.

Cove joints: Much like the backer rod & sealant narrative above we did find numerous joints that require attention. Cove joints are segregated from the typical backer & sealant joints solely because cove joints potentially are slightly more costly to replace than is a single plane conventional backer rod & sealant joint.

Precast joints: Each unit typically includes up to (3) three rows of seat deck. The precast units when originally installed necessitate filling the open joint between adjacent joints on both ends. The joints were filled with a pre-formed sealant material that is epoxied into position. As with other types of joints, the joint material begins to fail due to exposure to environmental conditions and UV rays. Many of the original joints have already been replaced over the past 10 years but there remains areas of seat deck where the joint material was installed during the original stadium construction. See Photo S7.

S4 - Typical Deteriorated Aisle Step

S5 - Typical Masonry Cracking at Vomitory Wall

S6 - Typical Failed Backer Rod and Sealant Joint

S7 - Typical Precast Joint

Sealant plugs: Typically each precast unit includes several voids that must be filled with sealant. The voids were originally cast into the precast unit to allow the installer's crane to pick up and maneuver the unit into its position. The void no longer serves a purpose but the void must be filled to prevent water from ponding in the depression. Again, the installed joint material has a useful service life of 7 to 10 years.

Control joints: Concrete construction inherently requires a large quantity of control joints to manage unavoidable shrinkage cracks. These joints are also necessary where one concrete pour ends and the next begins. In a stadium as large as FirstEnergy there are a vast number of joints that require regular maintenance.

Ramps / Bridges / Ramp Landing Repair Types

It must be noted that the City and Browns began implementing a replacement project for the ramps, bridges and ramp landings several years ago. As of this writing, all of the bridge slabs and ramp landings have been replaced and require no additional work at this time. Several of the ramp slabs on the NW ramp system have been replaced including (2) two ramps replaced in 2018. With that said, there are many additional ramps to be replaced in the stadium's four ramp systems located in each corner of the building. See Photo S8.

S8 - Typical Corroded Metal Floor Deck at Ramps

The following deterioration narrative is solely applicable to those ramps that have not yet been addressed.

Slab on metal deck: The metal floor deck supporting the ramp slabs has begun to deteriorate due to the infiltration of water through the slab joints. The trapped moisture located between the slab and metal deck causes the deck to fail along a line directly below the slab joint above. Over time, the deck corrosion advances to a point where the structural integrity of the slab is jeopardized.

Removal of loose deck: The above noted corrosion of the metal floor deck results in small isolated portions of the heavily corroded deck to begin to fall away from the parent metal. The loose pieces of deck are of varying sizes and shapes with a typical size of less than 10 square inches. These loose areas of deck are a potential life/safety to anyone traversing below should the metal dislodge and fall.

Steel frame reinforcement: The corrosion of the metal floor deck is a continual process. Due to the very high cost to replace a ramp slab it becomes necessary to implement a structural reinforcement program to lower the load imposed stress on the slab system. These frames are installed to decrease the span of the slab allowing for continued use of the ramp until a replacement of the ramp can be funded.

Carbon fiber reinforced polymer (CFRP): Another repair tactic to allow for continued use of the ramp prior to replacement consists of the installation of CFRP strips to the underside of the exposed concrete deck. The CRFP has the capacity to replace the completely failed metal deck in isolated areas.

Superstructure Repair Type

Touch-up painting: The quantity of exposed structural steel frame at FirstEnergy stadium is extensive with much of the building's steel columns and raker beams visible. Over time, the high performance paint coating begins to fail resulting in the development of surface corrosion. Due to the age of the coating it was expected that areas of failed paint can be found in localized areas throughout the stadium. See Photo S9.

S9 - Typical Surface Corrosion on Structural Framing Member

Discussion

The following narrative expounds on the above observations. This section includes commentary on the above observations, possible repair options, and repair/replacement recommendations. Continual repair of concrete, steel and joints should be expected to occur annually at an open-air stadium. Left unattended, deterioration often continues to increase in size and correspondingly expenses. This on-going deterioration grows at an exponential rate resulting in higher life-cycle costs than if the repairs were implemented in a pro-active systematic manner. As stated above, the City and the Browns have implement annual repair programs to address not only visible deterioration but also in an attempt to arrest the on-going development of distressed structural components.

General Repair Types

Patching: As noted previously, the spalling of concrete is primarily attributable to corroding embedded reinforcing steel. The corrosion process increases the volume taken up by the

corrosion by-product. This process can potentially increase the volume 7x the volume of the parent reinforcing steel. The resulting internal stress within the concrete is sufficient to induce micro-cracking off the concrete substrate. In turn, water infiltrates the crack to initiate further advancement of the corrosion process at an exponential rate. Repairing deteriorated concrete as it develops is the standard means to combat spalling concrete. Another option for consideration is the application of a protective coating to eliminate water infiltration into the concrete substrate. Such coatings can have a high initial cost and typically have a useful lifespan of about 10 years. The decision to apply a protective coating should be done on a location-by-location basis considering initial expense and anticipated duration of protection.

Non-structural cracks: The sealing of non-structural cracks is an example of proactive maintenance. Such action eliminates the infiltration of water into the crack thus preventing corrosion of reinforcing steel; or consequential damages to finished spaces below the cracked concrete. The annual repair program should evaluate such cracks and consider the impact of any decision not to repair such cracks.

Structural cracks: As structural cracks appear they should be addressed on an annual basis. It is important to reestablish the full structural integrity of a concrete member. Typically, these cracks are filled with a specialized epoxy manufactured in a high viscosity liquid that can penetrate very fine cracks bonding the substrate together. Prior to any such repair, it is important to identify the likely cause of the structural crack. Without addressing this primary cause it can be expected that the crack will reappear in the near future.

Guard rail posts: A guard rail post must be properly anchored within the concrete substrate in order to maintain stability of the rail. Often, water migrates in the cold joint between the rail and the concrete. This condition under reoccurring freeze/thaw cycles quickly causes cracks to form radiating from the post. The cracks cause the concrete to fail via a large spall. Without the proper stabilization of the guard rail assembly it cannot withstand the code-mandated lateral loads resulting in a potential safety hazard.

Seat deck steps: The process described above for guard rail posts is applicable to seat deck aisle steps. Steps are especially susceptible to cracking and failure due to the relative proximity of the post to the edge of the step. Again, a potential safety hazard can develop should the concrete surrounding the post fail.

Grinding of slabs: An uneven slab surface across a concrete joint can become a potential trip hazard. Each occurrence should be evaluated to access the safety risk that exists. When necessary the concrete on the 'high' side of the joint should be ground down to provide a relatively smooth transition across the walkable area.

Masonry: While not necessarily a significant structural concern, the cracked masonry should be addressed to prevent water infiltration through the wall assembly. Such moisture intrusion can damaged finished spaces behind the wall and potentially create an environment favorable to the advancement of deterioration to concealed structural components.

Joint Repairs Types

Backer rod and sealants: Due to the relatively short useful lifespan of joint materials it can be expected to be an on-going maintenance issue at an open-air stadium facility. The repair detail must consider the width of the joint opening and possible movement of the structure on each side of the opening. It is important to detail and construct the joint accordingly in order to maximize the useful service life of the repair.

Cove joints: These types of joints do not often have the same substrate movement considerations of a backer rod & sealant joint. However, detailing and construction of the joint is important to prevent premature joint failure and water infiltration.

Precast joints: As noted previously, some of the original precast joints still exist from original stadium construction. 20-year old joint material should fully expect water to readily migrate through the joint opening. It is especially important to replace these joints where located over usable and sometimes finished space below. However, the joints located in the stadium's lower deck on the east and south sides of the stadium only have a crawl space below so the repair of these joints can be delayed if necessary.

Sealant plugs: Repair of the sealant plug voids is a relatively insignificant item for consideration. However, it remains necessary to fill the voids to prevent water ponding on the tread surface.

Control joints: Due to the very high quantity of control joints at the stadium, it is an on-going maintenance effort to prevent water infiltration through the joint opening. While the cost per foot to repair these joints is relatively minor the excessive quantity of joints can result in a significant annual expense.

Ramps / Bridges / Ramp Landing Repair Types

Slab and metal deck: There are 46 ramp slabs at FirstEnergy stadium. To date, only three (3) have been replaced. Conversely, all the bridge and ramp landings have already been replaced. The unrepaired ramps must be replaced as funding becomes available because of the advanced deterioration of the metal floor decks. Based on recent past experience at the stadium, the cost to repair one ramp section is approximately $300,000 in 2018 dollars. These floor decks act compositely with the concrete slab to support pedestrian and equipment loading. When the corrosion of the metal deck advances far enough it becomes necessary to either replace the slab or implement remedial repairs. Without such action the ramps must be closed and unusable to all traffic. The following three (3) repair types are considered remedial repairs for consideration on a case-by-case basis.

Removal of loose deck: It is imperative to remove loose metal deck as it becomes noticeable. Without action it is possible that a small piece of corroded deck will dislodge and fall possibly striking someone walking below. These repairs should be done

continually throughout the year because the ramps are used daily by maintenance personnel. It is our understanding the Browns have been following this remedial repair guideline over the past few years on a continual basis.

Steel frame reinforcement: The installation of a supplemental steel frame is necessary when the metal deck corrosion is well advanced compromising the structural integrity of a local area of the ramp. The previously installed steel frames were designed to shorten the span of the concrete slab between steel beams. This repair is considered as temporary and not to be considered as a permanent solution to the distress of the ramps.

Carbon fiber reinforced polymer (CFRP): As the corrosion of the metal floor deck continues it eventually requires localized reinforcement of the concrete slab. The metal deck provides critical tensile support of the slab/deck assembly. Installation of CFRP strips replaces the localized loss of the metal deck. Again, this repair is to be considered temporary and not a permanent solution to the on-going ramp deterioration.

Superstructure Repair Type

Touch-up painting: The touch-up repairs to the high performance paint coating system on exposed structural steel is important for two (2) primary reasons: First, the repair work will prevent the corrosion from advancing thus jeopardizing the structural integrity of the steel framing member. Secondly, timely repair of the coating prevents unsightly discoloration of the adjacent painted surfaces due to corrosion staining.

Recommendations

As noted previously, the City of Cleveland in conjunction with the Cleveland Browns have implemented a series of annual structural repair projects over the past number of years. These repairs have been successful in managing the expected on-going deterioration of this open-air facility. Without such action, the quantity of deterioration and the scope of distress would undoubtedly been much greater than we observed as part of this Audit process.

We recommend that annual repairs continue to proceed for the foreseeable future because it should be fully expected that deterioration of concrete, joints and structural steel will continue. The on-going pro-active approach to addressing repairs as identified annually is the most appropriate tactic and best use of available funding.

Osborn recommends the following be implemented on an annual basis:
August - Structural engineer conducts a structural survey of the stadium
September - City/Browns decide on project scope
October to December - Capital repair construction documents developed
January - City/Browns authorize construction
February - Capital repair bid process concludes
March to July - Construction phase

STRUCTURAL | COST ESTIMATE		
Immediate	0 Year	$0
Emergency	0-1 Years	$4,199,823
Capital Repair	2-5 Years	$14,327,572
Capital Repair	6-10 Years	$14,483,072

PLUMBING NARRATIVE

PLUMBING NARRATIVE

Scope of Investigation
The audit of the mechanical systems has been organized into the following categories:

- Domestic Cold Water System
- Sanitary and Storm Piping
- Domestic Water Heaters
- Grease Traps

This report is based upon our inspection of the facility's plumbing equipment and associated piping. All areas of the facility were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing. This level of inspection does not clearly reveal all defects and requires certain engineering assumptions be made to establish condition. These assumptions cannot always be verified without extensive testing, some of which can be destructive. Therefore, this report is not to be considered a guarantee of the exact condition, life expectancy and total extent of potential repairs of the plumbing systems inspected.

DOMESTIC COLD WATER SYSTEM

Description of System
The domestic cold water enters the facility with adequate backflow prevention. After a flooding incident that occurred in 2007 when debris became clogged in the water closet flush valves, a 100 micron filtration system was added. Domestic water booster pumps with variable frequency drives are located in the Service level main mechanical room and the controllers have been replaced recently. The domestic cold water is routed throughout the facility to all concessions, suites, restrooms, and Club Areas.

The facility has manually operated Plumbing fixtures for water closets, urinals, and sinks. They are standard flow rate, no low flow fixtures are used in the facility.

Each suite has a water closet & lavoratory in the restroom and bar sink in the main seating area. All fixtures observed were in good condition.

Observations
On the Main Concourse, it was observed that the paper jacket on several domestic water branch lines was deteriorating from being exposed to the weather. This exposed the fiberglass insulation and reduces its' effectiveness. See Photo P1.

A common issue was found above the ceiling of the suites is that the fiberglass insulation that has not been properly secured. This included but was not limited to insulation of cold water piping, storm water piping, and sanitary piping. See Photo P2.

The general condition of the domestic water piping is poor. Distribution piping 4" and larger is galvanized steel with smaller piping installed is copper. Maintenance is required to flush the domestic water system 48 hours prior to any event to clear the debris and discoloration from the water.

P1 - Domestic Water Insulation with worn off paper jacket


p2 - Unsecured Insulation in Suite Level Ceilings

Based on discussion with Stadium maintenance staff, heat tracing applied to the piping exposed to ambient conditions has failed in numerous areas on the courses.

Discussion
The flood of 2007 inside the Stadium was believed to be caused by stirring up of sediment inside the domestic water main entering the Stadium and clogging the flush valves diaphragms. This led to the installation of an Orival water filtration system at the domestic water entrance to the building. The filters have been relatively clean over the years during inspections. The constant filling and draining of the domestic water system is causing the interior of the galvanized pipes to corrode and rust. The stadium must flush the pipes 2 days prior to games to remove the debris and rust coloring of the water. The fine rust particles have also reduced the life of the small water heaters in the building. 20-40 gallon Electric water heaters and in some locations instantaneous heaters are located in concession areas inside the Stadium. The fine rust particles plug the orifices on the heaters, leading to premature failure.

The presence of the corrosion in the galvanized pipes leads to additional pressure drop in the system and decreased efficiency of the domestic water heater. A common problem in the kitchen and concessions is the flowing of hot water into the cold water system as the hot water piping is at a higher pressure than the cold water piping. Further investigation will be required if this is just an issue with the settings on the cold water pressure reducing valves.

The amount of maintenance labor is very high to repair failed heat tracing and repair burst water lines in the wintertime as only select areas of the Stadium are drained. There was been a desire to drain the entire domestic water system except for areas that have a non-football season usage such as the Club areas for private events. Draining the system in winter after the Browns season will eliminate the need to heat the unoccupied levels of the stadium as there is no water in the pipes to freeze, drastically decreasing the energy consumed by the stadium.

Recommendations

We recommend removing and replacing of all 4" and 6" galvanized domestic water piping in the stadium. This will reduce the amount of the water and sewer utility costs for the city. There would also be maintenance labor savings by not having to flush the system so frequently.

We recommend adding drain valves at numerous locations in the domestic hot and cold water systems. The drain valves should be added at the bottom of domestic risers to the upper levels. Investigation will have to be performed to determine suitable locations in the sanitary system that a hose can be attached to the drain valves and routed a suitable distance to a drain.

SANITARY AND STORM PIPING

Description of System

Storm and sanitary piping is routed horizontally to storm and sewage ejection pumps located in the lower level of the building. The storm and sanitary forced main piping is routed to the city mains on the exterior of the building.

Floor drains are located in all mechanical equipment rooms, restrooms, and concession work rooms.

Observations

In the dock and employee parking areas we observed the trench drain grates that are not securely attached to the drain body as the grate tabs have broken off and no longer can be secured. When the grate is not secured in place, large particles of waste can get into the drain and cause blockage. This is also a tripping hazard causing safety issue. See Photo P3.

On the concourse level, we observed storm and domestic piping insulation to be very dirty and the paper jacket torn in numerous areas. See Photo P4.

The seating area of the stadium is pressure washed after games to clear the debris from the stands. Any dirt and fine debris is pushed toward the bowl drains, which is a part of the storm system. We observed when a grate cover was removed, the drain body area is clogged with debris we are assuming the horizontal portion of the storm piping is not pitched properly. See Photo P5. This has also led to ponding of water near the drains under the seats.

In discussions with Stadium maintenance staff, an underground storm line under the home team tunnel was found to be broken after a camera was extended into the underground line.

P3 - Unsecured trench drain gate

P4 - Disintegrating Storm Insulation

P5 - Bowl Drain Debris

Discussion
Open trench drain covers are a tripping hazard and new grates shall be installed.

The paper insulation cover on Concourse storm and sanitary being torn and dirty is more of an aesthetic issue as it does present the Stadium as not having a clean appearance.

Based upon discussions with Stadium Maintenance, the storm or sanitary lines have never been jetted out with a pressure system. Years of debris, beer, and cola syrup entering the sanitary system may have caused some issues.
Based on discussion with Stadium maintenance staff, heat tracing has failed on numerous areas of the storm and sanitary piping that is exposed in the Lower concourse area. Insulation has also damaged in areas, which exposes the heat trace and loses its effectiveness.

Recommendations
We recommend that new trench drain covers be installed on all drains in the enclosed parking area.

We recommend that the insulation with a damaged or dirty cover be covered with a PVC jacket.

We recommend the main underground sanitary lines and bowl drains be jetted out and cleaning of the sanitary holding tank to ensure adequate flow in the future

The area under the home team tunnel will have to be excavated to replace the broken section of pipe.

DOMESTIC WATER HEATERS

Description of Service
All concession areas above the service level have individual 30-50 gallon electric water heaters to serve various locations.

The service level Mechanical room houses three (3) natural gas water heaters manifolded together with (1) 3000 gallon hot water storage tank to serve all areas not served by an individual electric water heater. All three (3) of the domestic water heaters were replaced in the past 10 years. Temperature and pressure relief valves have been replaced recently on the hot water heaters. An upgraded hot water thermostatic mixing valve for the Stadium was installed for precise temperature control in low flow situations such as on non-game days.

The hot water for the Suite lavatory and bar sink is provided by an instantaneous hot water heater located under the bar sink. The lifespan of the heaters varies and they are replaced on an as needed basis by the Maintenance staff upon failure.

Observations
All natural gas water heaters in the service level mechanical room are new and in good operating condition, however, the associated hot water storage tank is original to the stadium and at the end of it's useful. Per Browns maintenance staff, electric instantaneous water heaters in the suites and family toilets are being replaced as needed. Electric water heaters serving the concessions have also been replaced on an as-needed basis.
In discussions with Stadium maintenance staff, the bladder of the expansion tank at the main gas fired heaters has failed.

Discussion
Hot water storage tanks have a typical service life of around twenty (20) years. While functioning at an acceptable capacity, a rupture might not be imminent, but would lead to no hot water availability throughout the stadium. Given, the size of the storage tank, adequate time must be allotted to install new tanks and provide resources to remove the existing tank.

Our opinions and recommendations within this document are based on manufacturer specifications and input from Browns facility staff. It has been indicated that heavy sediment build up from the domestic water supply has infiltrated the water tank. This sediment build up is result of a stagnant water in pipes and the corrosion of the pipe inner walls. Sediment build up in the hot water storage tank further degrades its structural integrity and increases the probability of a catastrophic rupture.

Recommendations
As a proactive measure to eliminate the chance of a catastrophic rupture leading to loss of hot water in the stadium, we recommend the existing 3,000 gallon hot water storage should be removed during an the off-season and replaced two (2) 1500 gallon storage tanks. The size of the existing storage is very large, requiring a shut-down of essential water services and a staged removal. The installation of two smaller tanks would allow for easier maintenance, and in the case of a rupture or emergency, these tanks can be removed and replaced with equivalents that have a much lower manufacturer lead time.

GREASE TRAPS

Description of System

Installed during the stadiums originally construction, grease traps are installed at kitchen sinks at all concessions and the main kitchen in the service level. When water and food elements drain from the sink into the grease trap, solid foods sink to the bottom while lighter grease and oil floats to the service. If an excess quantity of food solid waste enters the grease trap, heavy build up can occur which leads to blockage.

Observations

An inspection of a number of grease traps with the Stadium plumber revealed their ability to capture and intercept grease is greatly diminished due to heavy usage, age, and rotting. Installed in 1999, all grease traps on site have reached the extent of their useful service life. In most inspected grease traps, the internal baffles are rotting and falling apart. See Photo P6.

Discussion

The grease traps are heavily used and often handled incorrectly by concession staff. Concession staff are comprised of volunteer workers who, in some cases, are not aware of food waste that can be drained into the sanitary system. In many cases, as reported by Browns facility staff, large amounts of solid food waste are drained into the kitchen sinks, leading to an excessive levels of waste in the bottom of the trap. This adds additional wear to the grease traps and limits the effectiveness to intercept grease before it enters the sanitary system.

Recommendations

To eliminate further clogging of the sanitary system, it is recommended that all grease traps in the facility be replaced with new equivalent units, as the current units that are rotting out are no longer effective.

P6 - Rotted Grease Trap

PLUMBING | COST ESTIMATE		
Immediate	0 Year	$72,602
Emergency	0-1 Years	$386,775
Capital Repair	2-5 Years	$36,218
Capital Repair	6-10 Years	$0

MECHANICAL NARRATIVE

MECHANICAL NARRATIVE

Scope of Investigation
The audit of the mechanical systems has been organized into the following categories:

- Chiller Plant and Piping
- Air Handling Units/Fan Coil Units
- Radiant Heating
- Building Automation System (BAS)
- Refrigeration Systems (Walk-in Coolers and Freezers)
- Exhaust Systems
- Technology Rooms

This report is based upon our inspection of the facility's mechanical equipment and associated piping and ductwork. All areas of the facility were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing. This level of inspection does not clearly reveal all defects and requires certain engineering assumptions be made to establish condition. These assumptions cannot always be verified without extensive testing, some of which can be destructive.

Therefore, this report is not to be considered a guarantee of the exact condition, life expectancy and total extent of potential repairs of the mechanical systems inspected.

CHILLER PLANT AND PIPING

Description of System
Upgraded to new chillers in 2016, the plant consists of three (3) 410 nominal ton Johnson Controls air-cooled screw chillers (CH-1 through 3), each rated for 366 tons capacity at original design conditions. The total plant capacity is 1,098 tons. The design entering and leaving chilled water temperatures for CH-1-3 are 56.0°F and 44.0°F, respectively. The chilled water mains are 12 inch and the system is configured as variable speed primary / variable speed secondary, with 30% ethylene glycol as the fluid.

The primary pumps are headered together and each chiller has an automatic isolation control valve so that any pump can serve any chiller. Each primary chilled water pump (P-1 through 3) has a design flow rate of 800 GPM at 100 feet of head. There are two sets of variable speed secondary chilled water pumps, one set serves the north half of the stadium and the other set serves the south half of the stadium. Each set of pumps has a lead and standby pump. The north pumps (P-N-1A and P-N-1B) have a design flow rate of 1,000 GPM at 100 feet of head. The south pumps (P-S-1A and P-S-1B) have a design flow rate of 1,100 GPM at 140 feet of head. These series of north and south pumps supply chilled water to the AHUs and FCUs on the north and south sides of the building, respectively.

Observations
As part of a modernization of the chiller plant, all three (3) 400 nominal ton Trane chillers were replaced with new 410 nominal ton Johnson Controls air-cooled constant speed screw chillers. All existing piping and systems have been adequately maintained after the upgrade. However, it was discovered that the primary-secondary bridge piping original to the building was incorrectly installed, limiting the effectiveness of the chilled water loop and leading to inadequate flow to the south side of the stadium.

In the individual Suites at the fan coil unit, there is noticeable water saturation of the insulation and fibers possibly causing black mold. There appeared to be leaking drain valves or chilled water controls valves on the pipes. See Photo M1.


M1 - Water Saturated Insulation; FCU Chilled Water Piping

Discussion
As a result of the incorrectly installed chilled water bridge piping, the inadequate flow to the south side results in higher supply temperature water to air handling units, limiting the air handlers' ability to keep with demanded space temperatures during the summertime.

Insulation of the chilled water piping in several individual suites was noted to be worn or falling off. If the vapor barrier of the insulation is broken, the insulation will lose its performance values and create a location for mold to grow. When the FCU's are started up several days before a football game to cool the Suites, the hot humid air that has infiltrated the Suite will condense on uninsulated cold surfaces such as chilled water control valves and drain valves. The condensation will then saturate the insulation or drip onto the ceiling tiles below.

Recommendations
The only solution to ensure adequate flow to both sides of the building is to demolish a portion of the existing piping in the Mechanical room as required to re-install as originally shown on the 1999 construction documents. The proposed new Bridge piping would be 6-inch diameter and would include:

- A bidirectional electromagnetic flow meter
- A Fully modulating 2-way control valve
- Butterfly valves to isolate the flow meter and control valve

In the Suites, we recommend the insulation on all chilled water piping located in the Suites be replaced. Insulation shall also be provided on the bodies of devices such as the control valves and drain valves.

AIR HANDLING UNITS / FAN COILS / VAV BOXES

Description of System

Air Conditioning is provided at the Stadium for areas such as the Suites, Offices, Club Areas, Locker Rooms, and Press Areas. Air is distributed with ductwork from approximately 22 Air Handling Units (AHU), VAV boxes, and 110 Fan Coil units (FCU) to supply air distribution devices which are typically 24" x 24" diffusers located in lay-in ceilings. Larger areas such as the offices and club level concessions have rooms that are zoned with variable air volume (VAV) boxes.

On the Lower and Upper Suite levels, each suite has a chilled water fan coil unit with an electric heating coil located above the ceiling. Supply air is ducted to two (2) supply air diffusers in the ceiling in each suite. A wall mounted Siemens thermostat controls the sequencing of the heating and cooling in the Suite. The fan coils were found to be in good condition with small amounts of surface corrosion.

On the service level, makeup air units are used to supply supplemental air to the service level space as a means of pressurization, such as service corridors, dock, and field/ maintenance areas, in conjunction with some areas having conditioned air.

Observations

The AHU's across the facility are in fair condition and expected to last another five to ten (5-10) years. The Browns Maintenance staff does regular preventative maintenance such as filter changing, fan bearing greasing & alignment, and belt tensioning on the fans to the proper tightness. The unit door gaskets are intact and there is no noticeable leaks. However, the internal lining on multiple sections of AHU casing has steadily disintegrated over the years, due to typical usage. See Photo M2.

A common issue found above the ceiling of the suites is the fiberglass insulation has not been properly secured in several instances per suite. This included but was not limited to insulation of the supply air ducts, outside air ducts, and concrete deck.

The fan coils, also located in the ceiling space of each suite, were found to be in good shape with no surface corrosion. The inside of the units were not inspected for condition, but from the condition of the exterior of the unit and other components above the ceiling, we expect the Fan Coils to last at least another 5 to 10 (5-10) years.

The Hastings makeup air units in the service level were observed to be in working condition, with the exception of HV-1D1, as the unit was not functioning and in a level of disrepair per Browns maintenance staff. This unit pressurizes the service corridor directly adjacent to Mechanical Room 1.44.04.

Discussion

The typical lifespan for AHU's is 20 – 30 years where not exposed to harsh environments. As all equipment is located indoors under controlled conditions, the 30 year target should be achievable with regular, scheduled maintenance. All major air conveying devices such as AHU/FCU/VAV boxes' are original to the building.

The VAV boxes located above the ceiling have issues with the electric heat. Internal components on the heaters such as contactors have been in need of replacement with the parts becoming increasing difficult to obtain.

Recommendations

For AHU's with shredded interior lining, we recommend covering up it up with a sheet metal cover to prevent further erosion.

We recommend replacement of the Hastings heating and ventilating unit (HV-1D1) as it has reached its useful life expectancy and a working unit is necessary for the proper ventilation of the service corridor.

M2 - AHU Deteriorating Internal Lining

HEATING

Description of System

The heating system for the building consists of electrical resistance heating in the air conditioning units such air handling units, fan coils, and variable air volume boxes, in conjunction with electric heaters placed in concessions, outdoor bathrooms, outdoor suite seating, mechanical rooms, and lobbies.

In the lower and upper suite level outdoor seating, each suite is provided with an array of four (4) electric radiant unit heaters. Each suite is equipped with an indoor wall timer that controls the radiant heater. Only the heaters associated with the 2014 suite renovations are new from the renovation. All other radiant heaters associated with the non-renovated suites are originals from 1999. Refer to Photo M3.

The stadium is also equipped with a field heating system. This system consists of four (4) natural gas boilers where water/ethylene glycol mix is fed through a series of rows underneath the turf to heat the playing surface to a comfortable level and avoid injury from a hard and frozen field.

Observations

It was noted during discussions with Browns maintenance staff that the Upper and Lower suite level outdoor radiant heaters are a complaint among suite owners. Original radiant heaters located on the outdoor suite seating areas take a noticeably long time to heat up, and in some cases they give out a diminished level of heat output. Heat output varies among suites, with some providing more heat than others. A uniform level of outdoor heating is not experienced by suite owners.

The cabinet heaters in the restrooms and concessions are visually in poor shape; with rust and heavy usage visibly apparent. Internal components on the heaters such as contactors have been in need of replacement with the parts becoming increasing difficult to obtain. See Photo M4.

From an inspection perspective, all other heating equipment integral to AHUs and FCUs are in functioning condition and expected to last another 5-10 years; the typical useful service life of those equipment.

Discussion

The outdoor seating radiant heater are past their useful life and have been outputting a diminished amount of heat. These heaters are visibly warped and do not function as originally intended. The heat output is not enough to provide comfortable seating for suite owners.

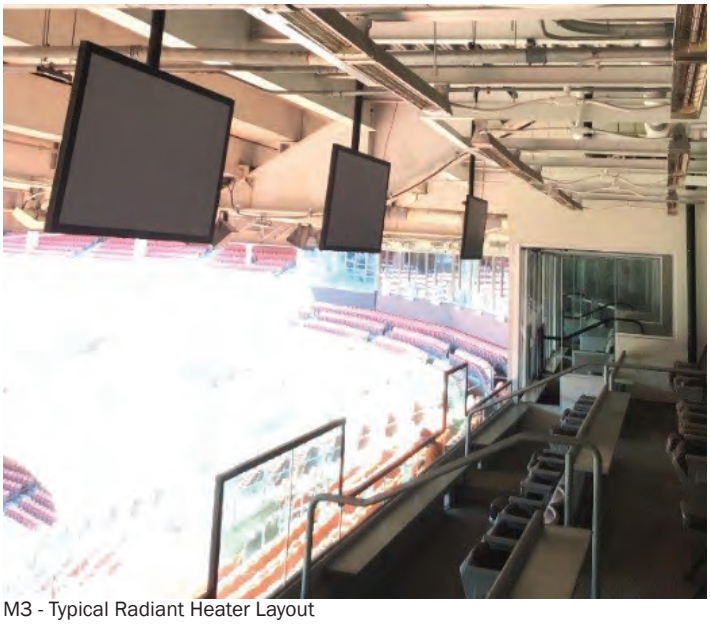
The unit and cabinet unit heaters are past their useful life according to the ASHRAE equipment life expectancy chart.

The field heating boilers and hydronic components currently are at the end of their useful life. The entire system should is functional, but has experienced an increasing issues with the system control components and leaks in the piping. The controls for the field heating system are stand-alone currently.

Recommendations

We recommend replacement of all cabinet and unit heating equipment in the near future except for the units that were replaced already in the 2014 suite renovation. Parts are becoming difficult to obtain for the equipment such as contactors and thermostats. These units are at the end of their useful life and are on the cusp of becoming impossible to maintain by Browns maintenance staff.

We recommend replacement of the entire mechanical system for the field heating at this time including boilers, pumps, piping, and hydronic specialties that are located in the mechanical room. The operation of the system should be added to the building automation system for scheduling its' operation and troubleshooting as it is a major component of the mechanical systems in the Stadium.



M3 - Typical Radiant Heater Layout

M4 - Rusty Cabinet Unit Heaters

BUILDING AUTOMATION SYSTEM

Description of System

Original to building, all mechanical equipment is controlled by a Siemens BAS, with the Stadium lighting controlled by a separate Microlight BAS. The Siemens BAS controls allows Browns maintenance staff to control the major equipment in the building as well as scheduling of occupied/unoccupied modes.

Observations

Osborn worked with the Stadium Facility Manager to review the operation of the Siemens Building Automation System (BAS). The Siemens system hardware is original to the building and is not currently supported by Siemens.

We reviewed the Graphical interface at the personal computer that provides the BAS inputs/ outputs for all HVAC operations in the Building including, but not limited to time of day scheduling for occupied / unoccupied mode of AHU's and FC's and staging the chilled water valves and electric heating coils. Unitary equipment such as heaters in the stadium concourses such as restroom and concession stands are not connected to the BAS.

Discussion

Without a BAS connected to the unitary equipment, the occupied / unoccupied occupancy of the Stadium leads building maintenance staff to manually turn on/off the equipment, which leads to maintenance labor hours that could be allocated elsewhere. Other areas such as the field heating system should be added to the BAS.

Recommendations

Compatibility of existing BAS with modern technology is not available. All mechanical equipment is connected to a Siemens BAS that was installed in 1999 and is not an open system. All other lighting automation is controlled by an obsolete Microlight BAS. Browns maintenance staff have indicated that both of these antiquated BAS systems fail often, requiring staff to manually turn on/off equipment. Osborn recommends replacing both the existing Siemens and Microlight systems with a modern DDC control system with open BACnet architecture and an upgraded front end and user interface similar to a unified Johnson Controls BAS.

EXHAUST SYSTEMS

Description of System

Several exhaust systems are located in the building for restrooms, cooking surfaces, dishwashers, mechanical rooms and others.

Observations

Most of the roof and in-line mounted exhaust fans for restrooms, grease, dishwashers have reached their expected life of 20 years per the ASHRAE equipment life expectancy chart.

In the main Commissary, a smoker was installed that extends past the kitchen exhaust hood. This is a code violation as the hood must extend 6" past the equipment. See Photo M5 for correct installation of a hood. The fumes cannot be captured properly by the hoods, allowing heat and odors to travel throughout the kitchen.

In the main commissary, a steamer was installed with no hood to capture the steam. The amount of moisture that was emanating from the steamer was filling the room. This moisture was in the vicinity to the coolers/freezers, which is likely the main cause of the ice build-up on the evaporator coils as noted in the Coolers and Freezers section.

Discussion

All General and Kitchen exhaust fans are past their useful life according to ASHRAE Equipment Life expectancy charts. Parts such as contractors are not readily available. The motor shaft bearings are at the end of their useful life also.

Recommendations

Equipment effluent that cannot be contained properly shall be moved to a different location with the proper size exhaust hood. A new exhaust hoods shall be provided over the steamer to remove moisture properly.

We recommend replacement of all roof and in-line mounted exhaust fans in the near future except for the units that were added/replaced already in the 2014 renovation.

M5 - Typical Concession Exhaust Hood

COOLERS AND FREEZERS

Description of System

Throughout the concourse levels of the stadium that serve customers, fifty (50) walk-in coolers, originally installed in 1999, are installed in concession and vending booths of the concourses. Conditions of the units vary, but all are nearing their expected useful service life of twenty (20) years.Typical for all concession and vending walk-in coolers, condensers are mounted on top of the units and the associated evaporator is wall mounted in the unit.

Observations

The enclosures are all exhibiting typical wear of eighteen (18) year old systems and are in poor condition. Door seals appeared to be working at most locations. Conditioned air is provided through wall mounted evaporators with condensers mounted on top of the enclosures for all concession stands. The Main Kitchen and Main Commissary evaporators are served by one (1) large condensing unit located in the mechanical room located behind the main kitchen. Typical evaporators appeared to be in fair condition. Condensers mounted above the enclosures were all observed to be in poor to fair condition. Ice buildup was common on evaporators, and many of the fans in the evaporating units were not operating at full capacity, however, adequate temperatures were maintained. See Photo M6.

Discussion

Although units are functioning as originally designed, Browns facility staff have indicated parts are not readily available, and units are failing and need repair at an increasing rate.

The existing systems use R-22 refrigerant, a Class II hydrochloroflourocarbon (HCFC) which will no longer be produced or imported in The United States past the year 2020.

Recommendations

Our recommendation is to replace the cooler / freezer HVAC systems that are in fair to poor condition, based on their age and the impending R-22 refrigerant phase out in 2020 they should be replaced. Electrical systems serving these are in good condition and require no upgrades. The enclosures should all be checked to ensure they are sealed and doors are closing and sealing properly.

A replacement will ensure reliable operation; and also to achieve reduced energy and maintenance costs. The existing evaporators and remote condensers are all in working condition, however we recommend replacement. Additionally, replace all evaporator and condenser systems that serve the existing walk-in cooler / freezers, including refrigerant piping that serve the existing walk-in coolers / freezers throughout the stadium that were installed in 1999 and/or that use R-22 refrigerant.

- Service all existing cooler / freezer enclosures to ensure they are sealed and closing properly.
- Replace or repair doors, wall and ceiling panels as required.

Note that a set of construction drawings have already been completed by Osborn Engineering in 2018 for improvements to the walk-in coolers and freezers and replacement of all of the HVAC components.

M6 - Ice Build-up on Evaporator and Freezer Contents

TECHNOLOGY ROOMS

Description of System

Currently no air conditioning exists in the several dozen Technology rooms that have been added to the Stadium over the past few years. Data racks has been installed in unused space or electrical rooms that had a small amount of exhaust in them.

Observations

The Technology rooms are very warm as they have no air conditioning in them. Some rooms that house electrical transformers do have an exhaust system from the original Stadium installation. Temperatures are still well above the ambient temperature even with this exhaust system installed because of the internal heat generation.

In the control room, temporary air conditioning units have been provided to keep the room cool. The original air conditioning system for the Stadium is no longer functional.

Discussion

Industry standard for rooms with data racks is to have an air conditioning unit. Elevated temperatures lead to overheating equipment which affects performance and useful life of the equipment.

Recommendations

The Control room air conditioner has to be replaced immediately as the control room function is vital to the function of the telecast of the game.

Air conditioning should be added to the Technology rooms. We recommend multiple variable refrigerant flow systems that have a centralized condensing unit located in an appropriate outdoor location.

HVAC | COST ESTIMATE		
Immediate	0 Year	$523,300
Emergency	0-1 Years	$2,128,447
Capital Repair	2-5 Years	$2,611,257
Capital Repair	6-10 Years	$0

FIRE ALARM NARRATIVE

FIRE ALARM NARRATIVE

Scope of Investigation
Osborn Engineering investigated the condition of the existing building fire alarm system by conducting a limited visual inspection of the fire alarm system installation. The assessment was based on a field visual inspection conducted over 3 days in September of 2018, a desktop review of the existing plans and available documentation provided to Osborn Engineering by Cleveland Browns facilities staff and informational meetings with facilities staff. No systems testing was conducted. The purpose of this assessment was to evaluate the installation and condition of the existing fire alarm system and make recommendations to the City of Cleveland regarding the condition and remaining useful life of the system.

Description of System
The fire alarm system is a Simplex 4120 emergency voice system. Building notification is initiated by sprinkler waterflow switches, manual pull stations, and various smoke and heat detection. The fire alarm system also monitors some of the cooking suppression equipment. The fire alarm system is original to the buildings construction in 1999.

Observations
The system is experiencing various trouble conditions that appear to be related to wiring and device wear stemming from harsh exterior environments.

Many of the devices on the 100, 300, and 500 concourse levels show significant wear where exposed to weather. The strobe housing is clouded and dirty which limits the candela that is produced when the device operates. See Photo F1.

F1 - Cloudy Fire Alarm Device

Many locations have inadequate notification coverage for how a space is currently configured or used. In some cases the current installation spacing or locations do not meet today's codes and standards, in others the notification is not present where it is required.

Discussion
Osborn Engineering is recommending a complete fire alarm system replacement due to the following issues:

- The Simplex 4120 panel is 20 years old, and no longer manufactured. The panel was last manufactured in 2002 and is two (2) generation updates behind current technology. While it continues to be serviced, there will be a time in the near future where this will not be the case.
- The system is experiencing various trouble conditions related to deficiencies in wiring and environmental limitations that are not remedied by replacing devices. Investigating these trouble conditions is often labor intensive and expensive to trace wire back. Often when one trouble in one area is corrected another problem appears. This may be due to age, weather damage, and even wiring patches from previous work or repairs.
- The devices on the 100, 300, and 500 concourse levels should be weather rated devices, but the existing platform does not offer weather rated devices. Devices will need to be replaced often to accommodate the wear to the non-rated devices, unless the system is replaced.
- Many locations have inadequate notification coverage for how a space is currently configured or used.In some cases the current installation spacing do not meet today's codes and standards, in others the notification is not present where it is required.

Recommendations
It is Osborn Engineering's opinion that due to the numerous changes to fire alarm codes and standards over the last 20 years, a new system should be installed to provide a basic level of safety to the general public and the employees of the facility. This work is recommended to be a capital repair in the two (2) year range. It is recommended that the city bid out the design work in the next year (2019) and do the installation in the 2020 calendar year, otherwise many notification devices will need to be replaced in the next 1-2 years if the system is not replaced.

FIRE ALARM | COST ESTIMATE		
Capital Repair	2-5 Years	$3,968,000

The fire alarm cost assumes only two years of escalation due to the necessity of doing this project sooner than later. This cost also assumes the ability to reuse some conduit, and running plenum rated cable above the ceiling in finished spaces.

FIRE PROTECTION NARRATIVE

FIRE PROTECTION NARRATIVE

Scope of Investigation
The audit of building fire protection systems included the following sub-systems:

- Fire Water Pumping System
- Standpipe Systems
- Wet Pipe Sprinkler Systems
- Dry Pipe Sprinkler Systems

This report is based upon our inspection of the facility's fire protection systems and equipment. We have endeavored to access and inspect as many areas of the facility as possible. The inspection services were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing as well as internal and performance inspections of the equipment and systems. However, this type of inspection does not clearly reveal all defects and requires certain engineering assumptions be made to establish condition. These assumptions cannot always be verified without extensive testing, some of which can be destructive.
Therefore, this report is not to be considered a guarantee of the exact condition, life and total extent of potential repairs of the fire protection equipment and systems inspected.

FIRE WATER PUMPING SYSTEM

Description of System
Fire water is automatically supplied to the standpipe and sprinkler systems by a 2,000 GPM fire pump rated at 95 psi of pressure boost. The pump is located in main mechanical room of Quad D on the Service Level of the stadium. A 12" tap of the 12" city water main located on West 3rd St. splits outside of the building into dedicated 12" fire service and domestic water feeds. Backflow prevention is indicated on the original drawings on site in an underground vault and was not able to be inspected or observed. Fire water from the pump is distributed throughout the service level of the stadium via an 8" fire main supplying the various standpipes, sprinkler risers, and sprinkler zones.

Observations
The general condition of the fire pump and associated installation and appurtenances was observed to be in acceptable condition given its age and the environment in which it is installed. The installation was appeared to be compliant with the applicable codes and standards in effect at the time of the construction. Given the requirements of inspection, testing, and maintenance required for a fire pump installation, it is reasonable to assume the fire pump and associated components are in good operating condition and failures of the equipment should not be expected in the near future. Normal "wear and tear" is expected for an installation of this age however, excessive leakage was noted around the fire pump dive shaft seals. In addition, excessive corrosion was also noted on the main 12" incoming fire service and associated couplings and hangers.

Discussion
Overall the conditions observed of the fire pump and associated installation were as anticipated. Any deficiencies noted should not affect the capability of the fire pump from supplying the required fire water to the standpipe and sprinkler systems in an emergency situation. The excessive corrosion on the incoming fire service piping, couplings, and hangers should be addressed in the near future as well as the pump drive shaft seals in order to have continued confidence in the reliability of the systems. Continued inspection, testing, and maintenance in accordance with Chapter 8 of NFPA 25 will help extend the life of the equipment as well as identify future deficiencies based on a comparison of year to year testing records.

Recommendations
Based on the aforementioned observations, it is recommended that the incoming 12" fire service line be replaced. While there doesn't appear to be an imminent danger of failure, the corrosion will only continue to worsen over time. Given the critical nature of the pipe, supplying 100% of the fire water to the facility, the replacement of this line should be considered within the next 2-5 years. This will allow the city and the Browns to schedule the replacement at their convenience during and period when there is no events scheduled at the stadium and avoid a costly emergency repair.

The second item to be considered for repair is the fire pump drive shafts. The apparent excessive leakage will cause premature corrosion of the pump base and drive shaft. It is recommended that the pump manufacturer and/or supplier be consulted to verify whether or not this amount of leakage is acceptable. Given the age of the fire pump, it is recommended that the pump be disassembled and rebuilt with new gaskets, seals, bearings, etc. within the next 2-5 years. Along with the continued inspection, testing, and maintenance should allow the pump to remain serviceable beyond its life expectancy and defer a significant cost of a pump replacement to well beyond 5-10 years.

STANDPIPE SYSTEMS

Description of System
The facility standpipe system consists of 12, automatic dry standpipes fed directly from the fire pump.Each standpipe is provided with a 2-1/2" fire hose connection at each level for use by the local fire department. Automatic dry standpipes are normally filled with pressurized air and arranged through the use of a dry pipe valve to admit water into the system upon opening of a hose valve. These systems are intended to be used solely by the local fire department in the event of a fire situation. The dry pipe valves controlling each of the 12 standpipes are connected directly to the fire pump to automatically supply the required system demand.

Observations
The general condition of the standpipes and hose connections appeared to be good to very good. It appears some portions of the piping are relatively new. The dry pipe valves and associated air compressor were observed to be mostly original. Discussions with facility staff revealed that a number of the dry valves have been rebuilt in recent years and a few compressors have need to be replaced. It was evident that a couple of the dry pipe valves have been opened recently with significant corrosion on the surrounding floor. While these systems are still functional, excessive maintenance costs over recent years indicate they may be nearing the end of their useful life expectancy.

Discussion
The biggest issue that dry type systems encounter is corrosion on the interior portions of the piping. By design, these systems are pressurized through the use of an external air compressor that compresses the atmospheric air and pumps it into the system to displace the water. Once this air pressure is released, the dry valve opens allow the system to fill with water. With the use atmospheric air, the system is introducing unwanted moisture into the system that is intended to be dry. This small amount of moisture contributes to the progression of corrosion.

As indicated above, a number of the dry valves have been rebuilt in recent years due to leakage. While this approach may be sufficient for the short term, the same problems will continue to occur over time and, in fact, may become more frequent as the original tolerances of the valve construction begin to fall out of specification each time a valve is opened.

Inherently, dry pipe systems have a small amount of leakage and require a consistent source of compressed air in order to keep the dry valve closed. The air compressors must cycle on and off to maintain the minimum set pressure. This cycling on and off shortens the expected life span of any motor and is evident due to the facility having already replace a number of these compressors.

Newer technology exists that could be retrofitted easily to the dry pipe systems to eliminate the compressors and their drawbacks. Nitrogen generators are becoming increasingly common on dry type systems as a replacement to traditional air compressors. By extracting the nitrogen present in our atmospheric air, a nitrogen generator can produce greater than 98% pure nitrogen to be pumped into the system as the pressure medium. Oxygen, a key contributor to the corrosion process, is displaced in the piping and effectively inhibits electromechanical, galvanic, and microbiologically influenced corrosion. This equipment could extend the life of the dry piping significantly over the use of compressed air.

Recommendations
The field observations show that while the standpipes are physically in good condition, the supplying dry pipe valves and associated compressors that are original to the building have reached the end of their life expectancy. Maintenance and repair records show a number of these being repaired, rebuilt, or replaced over the past few years and it can be expected that these costs will continue in the near future.

It is recommended that as the valves begin to show signs of needing to be repaired or rebuilt, that it be considered to replace these valves with new. This will provide a much more reliable system than rebuilding or repairing them. Also, as air compressors continue to fail or show signs of needing repair or replacement, it should strongly be considered that these units be swapped out for nitrogen generators. The nitrogen generators are standalone, package units that can be plumbed and wired into the same points as the existing air compressor. As discussed, the use of these over air compressors will help slow any corrosion currently occurring and significantly extend the life of the existing piping and components.

WET PIPE SPRINKLER SYSTEMS

Description of System
Wet pipe sprinkler systems are location in various areas of the facility including the service level, main concourse in conditioned spaces, the upper and lower suite levels, and the north and south areas of the club level. These systems are supplied from the building fire pump and are monitored through local flow switches and valve supervisory switches by the building fire alarm panel as required by NFPA 13.

Observations
The general condition of the wet pipe sprinkler systems was observed to be good to very good condition from a physical standpoint. A review of the 2014 Capital Audit indicated that the originally installed sprinklers were subject to a recall in 2001. Meetings with facility staff indicated that all sprinklers have since been replaced and that no recalled sprinklers were sited from visual inspection or within the required stock of spare sprinklers. Inspection, testing, and maintenance records were up to date.

Based on a comparison of the original design documents to the existing floor plans, there appears to be areas of the stadium that have changed occupancy from the original construction and alterations to the floor plans. Certain areas such the storage room located in the southeast portion of Quad C on the service level and the team shop on the main concourse may be undersized based on the original design documents while other areas such as the storage area located under the north stands on the service level and the new office build outs in the Quad C service area storage room do not contain any sprinkler protection.

Recommendations
It is recommended that a full hazard occupancy analysis be performed by a licensed professional engineer to identify the design basis of all existing systems and compare them against the current occupancy. This will ensure the use of all spaces is adequately protected and identify areas that are inadequately protected. Typically, a visual observation is not adequate to verify the design density of an existing installation and review of shop drawings and hydraulic calculations is necessary. The sprinkler system within Storage Room 1.32.01 should be evaluated immediately and replaced with an appropriately designed sprinkler layout to ensure adequate protection as this area contains a high fuel load of merchandise storage.

In addition, office buildouts within this space do not contain sprinkler protection and additional sprinklers should be added. The storage area on the service level located between Columns A and B under the north stands also contains a significant fuel load with a lot of plastics. This area currently contains no sprinkler protection. It is recommended that sprinkler protection be added to this area.

DRY PIPE SPRINKLER SYSTEMS

Description of System

Dry pipe sprinkler systems are location in various areas of the facility including where unconditioned areas subject to freezing are protected. These systems are supplied from the building fire pump and are monitored through the use of pressure switches at the system dry valve(s) by the building fire alarm panel as required by NFPA 13.

Observations

The general condition of the dry pipe sprinkler systems was fair to good. A review of the 2014 Capital Audit indicated that the originally installed sprinklers were subject to a recall in 2001. Meetings with facility staff indicated that all sprinklers have since been replaced and that no recalled sprinklers were sited from visual inspection or within the required stock of spare sprinklers. Inspection, testing, and maintenance records were up to date. In some areas, excessive corrosion was noted on the exterior piping. These areas were primarily in the main concourse where the piping is exposed to the elements. Portions of the system have been recently replaced with galvanized piping due to corrosion issues.

The dry pipe valves and associated air compressor were observed to be mostly original. Discussions with facility staff revealed that a number of the dry valves have been rebuilt in recent years and a few compressors have need to be replaced. It was evident that a couple of the dry pipe valves have been opened recently with significant corrosion on the surrounding floor. While these systems are still functional, excessive maintenance costs over recent years indicate they may be nearing the end of their useful life expectancy.

Discussion

The biggest issue that dry type systems encounter is corrosion on the interior portions of the piping. By design, these systems are pressurized through the use of an external air compressor that compresses the atmospheric air and pumps it into the system to displace the water. Once this air pressure is released, the dry valve opens allow the system to fill with water. With the use atmospheric air, the system is essentially introducing unwanted moisture into the system that is intended to be dry. This small amount of moisture aides in the progression of corrosion.

As indicated, a number of the dry valves have been rebuilt in recent years due to leakage. While this approach may be sufficient for the short term, the same problems will inevitable occur over time and, in fact, may become more frequent as the original tolerances of the valve construction begin to fall out of specification each time a valve is opened.

Inherently, dry pipe systems have a small amount of leakage and require a consistent source of compressed air in order to keep the dry valve closed. The air compressors must cycle on and off to maintain the minimum set pressure. This cycling on and off shortens the expected life span of any motor and is evident due to the facility having already replace a number of these compressors.

Newer technology exists that could be retrofitted easily to the dry pipe systems to eliminate the compressors and their drawbacks. Nitrogen generators are becoming increasingly common on dry type systems as a replacement to traditional air compressors. By extracting the nitrogen present in our atmospheric air, a nitrogen generator can produce greater than 98% pure nitrogen to be pumped into the system as the pressure medium. Oxygen, a key contributor to the corrosion process, is displaced in the piping and effectively inhibits electromechanical, galvanic, and microbiologically influenced corrosion. This equipment could extend the life of the dry piping significantly over the use of compressed air by essentially stopping and corrosion currently occurring.

The replacement of certain areas of dry sprinkler piping with galvanized piping was noted. While the use of this piping is permitted per code and has been industry standard for use in dry pipe, new studies in recent times have begun to dispute this. In theory, the interior surfaces of dry pipe systems should remain dry however, this is rarely the case for systems maintained with an air compressor. If residual water is trapped within a dry piping network fabricated with galvanized piping, the zinc layer will quickly break down and ultimately lead to a pinhole leak. Since the corrosion is localized to a very small area, a breach in the piping can occur in as little as 2-3 years. The use of black steel in a dry pipe system can disperse the potential corrosion of a significantly larger area.

Recommendations

It is recommended that as the valves begin to show signs of needing to be repaired or rebuilt, that it be considered to simply replace these valves with new. This will provide a much more reliable system than simply rebuilding or repairing them. Also, as air compressors continue to fail or show signs of needing repair or replacement, it should strongly be considered that these units be swapped out for nitrogen generators. The nitrogen generators are standalone, package units that can be plumbed and wired into the same points as the existing air compressor. As discussed, the use of these over air compressors will help slow any corrosion currently occurring and significantly extend the life of the existing piping and components.

In areas identified with excessive corrosion such as the various areas of the main concourse noted with PlanGrid, it is recommended to replace this piping with schedule 40 black steel. As new pinhole leaks develop within the system(s), these areas should be also replaced with new, schedule 40 black steel. The use of galvanized piping should be avoided with any further piping replacement.

FIRE PROTECTION | COST ESTIMATE		
Immediate	0 Year	$1,000
Emergency	0-1 Years	$104,550
Capital Repair	2-5 Years	$247,398
Capital Repair	6-10 Years	$0

ELECTRICAL NARRATIVE

ELECTRICAL NARRATIVE

Scope of Investigation

The audit of building electrical systems included the following sub-systems:

- Power distribution: normal and emergency / standby.
- Building lighting: interior and exterior.
- Field lighting.
- Lighting control system

This report is based upon our inspection of the facility's electrical equipment. We have endeavored to access and inspect all areas of the facility. The inspection services were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing. However, this type of inspection does not clearly reveal all defects and requires certain engineering assumptions be made to establish condition. These assumptions cannot always be verified without extensive testing, some of which can be destructive.

Therefore, this report is not to be considered a guarantee of the exact condition, life and total extent of potential repairs of the electrical equipment inspected.

POWER DISTRIBUTION SYSTEM

Description of System

Power is supplied at medium voltage by Cleveland Public Power (CPP) through two feeders which circle the facility feeding 2 – 2500 kVA outdoor oil filled transformers at each of four locations (A, B, C, and D quads). In addition, a 500 kVA transformer is provided on the east and west sides for power to the scoreboards. All Transformers are owned and maintained by CPP. Power is stepped down to 480/277 volts and run to four main switchgears (A, B, C, and D quads). These switchgears are of the Main-Tie-Main arrangement. From here power is distributed to large load blocks as well as a plug-in bus duct riser in each quad which allows taps at each level to serve lighting and power loads. At each level of each quad there are electrical rooms containing distribution panels, step down transformers and lighting/receptacle branch circuit panels. Most power feeders rated more than 150 amps are PVC jacketed MC Aluminum Cable, except for the three air cooled chillers that are copper feeders, which is consistent with the original design.

Observations

The general condition of the Main Switchgear, distribution panels and branch circuit panels was good to very good. The electrical rooms were clean, dry and free of clutter. It was apparent the equipment has been well maintained. The main Switchgear was last serviced in June of 2017.The only equipment that showed signs of "wear and tear" were the branch circuit panels in the concessions. However the equipment overall was still in good operable condition. It was observed there were no Arc Flash Warning labels on equipment covers, this will be discussed further on.

Where visible, the MC cables, conduit and wire, appeared in good condition, exterior raceways showed signs of weathering, but none severe considering the age.

It was noted during discussions with operations, that there is a need for additional power connection points on the north side of the Stadium. During one visit prior to a game, it was observed that many temporary circuits had to be laid on the grounds and through the service area to reach a power source for broadcast trailers. See Photos E15 & E16.

One further area of concern, on the Upper Deck concessions, the step down transformers to provide 208/120V are mounted on the roof, it was not able to be accessed, but due to the fact the equipment has been exposed to the weather of 20 years, there may be units which have experienced degradation of their enclosure. This will require further investigation. See Photo E3.

Discussion

Overall the electrical system provides power conveniently to all load points, equipment generally still has spare/spaces. There are no overloading conditions that were identified during the investigation, however consensus is that game day system capacity may be nearing safe operating peak within a few years.

E15 - Temporary power cables laid on ground - north side

E16 - Temporary power cables entering service area


E3 - Upper concourse roof top transformers over concessions

Recommendations
The typical lifespan for electrical equipment is 25 – 35 years where not exposed to harsh environments. As all equipment is located indoors under controlled conditions, the 35 year target should easily be achievable with regular, scheduled maintenance.

This would include yearly thermal imaging. Thermal imaging (infrared) is a valuable tool that can be done while the equipment is energized. If done safely and properly, an infrared inspection can identify loose bus connections before they result in a full or partial equipment outage. Maintenance can be scheduled to correct the identified issue. Also, manually operating circuit breakers once a year. This helps keep the contacts clean and helps operating mechanisms move freely. Main Switchgear should be cleaned, inspected, tightened, lubricated, and exercised on a regular basis. This is already being done, so it should be a continuation of existing programs.

A complete load study should be undertaken which includes metering of key feeders during game or event days to identify potential future problem areas.

The Arc Flash issue needs to be addressed. The demand for continuous supply of power has brought about the need for electrical workers to perform maintenance work on exposed live parts of electrical equipment. Besides the existence of electrical shock hazard that results from direct contact of live conductors with body parts, there also exists a possibility of electric arcs striking across live conductors. Switchgear and other equipment should be field marked with a label containing the available incident energy or required level of PPE (Personal Protective Equipment) required to wear when performing work. It is good practice in order to comply the NEC 70E and OSHA requirements, also, some insurance carriers require this be done as well. Typically to obtain the incident energy level, an arc flash analysis must be performed by a qualified engineer. It is recommended a study be commissioned to perform the arc flash analysis for the entire distribution system down to the 480V, 100A level.

Recommend a quick review of the condition of the roof mounted transformers on the Upper Deck, which should include a thermal scan of each unit.

Recommend providing an additional 1200 Amp switchboard for temporary broadcast/show power on the north side. Connection boxes with cam-lok type connectors should be provided for 100, 200 and 400 amp service.

EMERGENCY/STANDBY POWER DISTRIBUTION SYSTEM

Description of System
Power is supplied by two diesel fueled engine generator sets located in dedicated rooms in the A and D quads service level. Units are manufactured by Caterpillar, model #3412, and date from original construction. The A quad unit is rated 600 kW and the D quad unit is 700 kW, it carries the additional load of the Fire Pump. Each Generator output feeds a 1600 Amp automatic transfer switch, manufactured by ASCO, which in turns feeds distribution panels for emergency loads consisting of life safety loads, lighting, select elevator, audio, security and technology loads. The Fire Pump is powered from a separate output breaker on the D quad generator and its transfer switch is integral to the fire pump controller. As with the normal power system, power feeders rated more than 150 amps are typically PVC jacketed MC Aluminum Cable.

Observations
The Generators are well maintained and have low running hours for their age. The Automatic Transfer Switches and downstream distribution components (panelboards, transformers, etc.) are in good condition.

Discussion
Typical lifespan for the emergency system components is 25 – 35 years, as the system here has been well maintained, with continued maintenance as recommended below, the full service life should be achievable. Discussion with the facility operators resulted in a concern that if additional loads were added to the system, was there sufficient capacity in the generators to accommodate the load growth. With changing Code requirements and demands for system continuity during events, this should merit further investigation.

Recommendations
The emergency Generators should be maintained and exercised per manufacturer's and Code requirements for emergency systems. A load bank test should be performed annually.

Off season the ATS's should be maintained, tested, and moving parts lubricated per manufacturer's requirements. Emergency power circuit breakers should be exercised as well.

Perform an emergency load study incorporating projected needs to determine if a generator upgrade and system expansion is required.

THE BUILDING LIGHTING SYSTEM

Description of System

The building lighting systems (excluding Field lighting – see next section) consists of both indoor and outdoor fixtures of a large variety of both style and lamping. The age varies, but typically most fixtures date from the original construction (1999). Generally, lighting is controlled by the Micro-Lite control system (see description below).

Observations

The observations of the lighting system will be broken down onto three components: exterior and building mounted, interior – exposed, interior – back of house.

Exterior and Building Mounted

Surrounding the facility are post top mounted luminaires on white aluminum poles. They are in good condition and the lamping has been upgraded to LED. See Photo E1.

Located in the tree wells and landscaped beds are ground mounted fixtures, both incandescent and HID types. Most of these are in poor condition, many show signs of water infiltration, and housings damaged or corroded and are not operational.

Attached to the monumental columns around the exterior are mounted floodlights to provide decorative up-lighting of the structure, although functional, they are dated and utilize HID lamping.

Ramps

The exterior ramps are lit by column mounted half round HID fixtures which date form original construction, especially on the north side they are in poor condition, finishes cracked and peeling, faded lenses which reduces illumination. See Photos E4 & E5. At the Upper Concourse level fixtures are pole mounted HID type. See Photo E2.

Upper Concourse

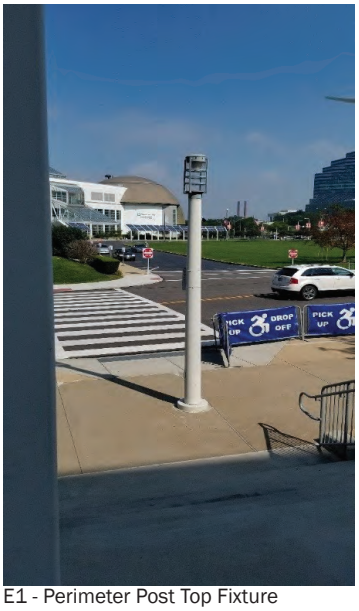
The linear fixtures which provide accent lighting are fluorescent in 4 and 8 foot lengths. They run along the side of the concourse and are mounted over the niches at toilet rooms. Wall bracket types are mounted at the entrances to the vomitories. These all date form original construction and are in fair condition. See Photo E9.

Windscreens

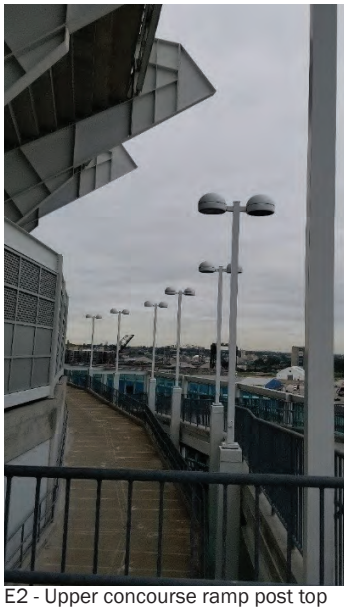
The perforated metal windscreens are located around the circumference of the stadium, typically at stair towers. They are backlighted by HID floodlights (E10). The fixtures are mostly non-working due to the difficulty in relamping, the have also deteriorated over the years. The Browns would prefer they be removed and not replaced.

Main Concourse

The overhead lighting in the main concourse has been updated to LED. However the ancillary linear fixtures which provide accent lighting are fluorescent in 4 and 8 foot lengths. These date form original construction and are in fair condition. They run along the side of the concourse and are mounted over the niches at toilet rooms. See Photo E6.



E1 - Perimeter Post Top Fixture


E2 - Upper concourse ramp post top fixture


E4 - Typical interior ramp fixture


E5 - Typical interior ramp fixture


E9 - Linear fluorescent fixture in concourse


E10 - HID fixture mounted behind windscreen

E6 - Main Concourse linear fixture


E7 - Typical wall mounted HID Fixture


E8 - Typical wall mounted HID fixture showing corrosion

There are other miscellaneous HID wall bracket fixtures throughout, most in fair to poor condition. See Photos E7 & E8.

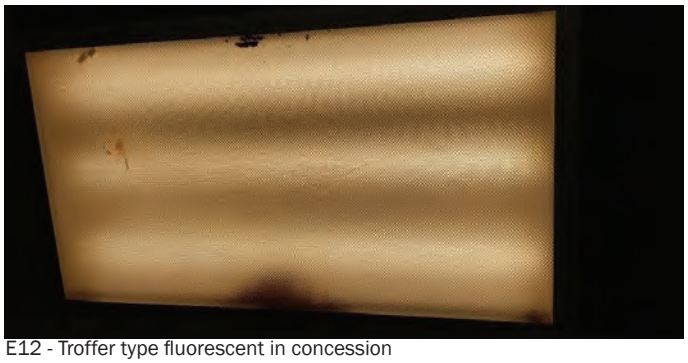
End Zones

The end zones were renovated in 2013 and the majority of the fixtures were replaced with LED. There are a few pockets of fluorescent/HID fixtures, generally these are original and are in fair to poor condition.

Interior

This section includes stairways, concessions, toilet rooms, storage, offices, broadcast, corridors, suites, kitchen and food prep, other interior rooms.

1. Stairways: Existing is 4 foot fluorescent fixtures, these are original, and many lenses have deteriorated which leads to lower light levels, need higher illumination values in these spaces.
2. Concessions & Food Service: Lighting in the concessions is primarily fluorescent troffers, these date from original construction and show extreme wear from game day cooking. Condition is fair to poor, most all need new lenses due to cooking fumes. See Photo E12.
3. Toilet rooms: Concourses, back of house. Typically lighting is fluorescent, 4' linear in concourse rooms, troffer type in back of house See Photo E11. Although fixtures are generally in good condition, they are dated and energy inefficient.
4. Corridors: The lower and upper suite levels use 2 x 2 fluorescent troffers, downlights with CFL's (spiral type fluorescent, See Photo E14) are over each suite door. Again the lighting is dated and energy inefficient, in particular the downlights need to be upgraded to LED as CFL's are rapidly leaving the market.


E12 - Troffer type fluorescent in concession


E11 - Typical toilet room corner mounted fluorescent fixture


E14 - Typical fluorescent downlight over Suite entry doors


E13 - Typical troffer type fluorescent in "back-of-house" location

5. Suites: – The suite lighting has been upgraded to LED throughout and requires no action at this time.
6. Offices, Press areas, Broadcast Booths: These areas typically use fluorescent troffers, downlights also in booths, many incandescent. See Photo E13. Fixtures generally fair to good, but dated and energy inefficient.
7. Storage, mechanical, electrical, and technology rooms: these rooms use open industrial type fluorescent fixtures, some are still of T-12 origin. Again, the fixtures are generally in good condition but dated and energy inefficient.
8. Service Level Food Service and Kitchen: Typically lighting is fluorescent, troffer type. Fixtures are generally in fair good condition, they are dated and energy inefficient.
9. Service Level all other: Open industrial type fluorescent fixtures, some are still of T-12 origin. Again, the fixtures are generally in fair to good condition but dated and energy inefficient.

Discussion
Although functional, overall the lighting fixtures are severely dated, many in poor condition, especially in the outdoor areas (ramps, concourses) and the large variety of lamps styles creates a maintenance headache for replacement stocking. Fixture life is typically considered to be 15 years. As most here date to original construction they are well past expected life, and with the rapid advancement in LED lamping technology, have become obsolete. Many of the lamp types are no longer manufactured and replacements are available from warehouse stock only. As an example, General Electric was at the time of construction, one of the largest producers of HID and HPS lamps, used in many fixtures in the facility. GE has since ceased production of these lamps and shuttered the factories. Most fixtures are also using an energy inefficient lamp/ballast combination. There are great potential energy savings available with a conversion to LED fixtures.

Recommendations
For reasons of energy efficiency, maintenance, and esthetics, it is strongly recommended a program be undertaken to systematically replace, all fixtures not currently LED with an LED equivalent. This will result in a brighter, more uniformly lit facility with lower operating costs. Other advantages include the instant on ability of LED's, no waiting for 'warm-up' of HID-HPS lamps, they are fully dimmable for added control without use of special dimming ballasts or controls, and life expectancy of LED's far exceeds that of typical lamp types, 50,000 operating hours or more, which reduces total-cost-of-ownership (TCO) through maintenance avoidance. Exterior areas should be replaced first as these are more distressed than interior spaces. Interior spaces can be phased in according to priorities, offices, concessions, stairways first, storage and similar, last.

THE FIELD LIGHTING SYSTEM

Description of System
The Field Lighting System was upgraded to a full LED system this year (2018), including new controls.

Observations
The system is fully functional and complies with NFL requirements.

Discussion
This system should fulfill facility needs until broadcast requirements significantly change or there is a major innovation in lighting technology.

Recommendations
Maintain lighting fixtures per manufacturer's recommendations.

THE LIGHTING CONTROL SYSTEM

Description of System
The Lighting Control System is manufactured by "Micro-Lite" and dates from the original construction (1999). It consists of localized relay panels, approximately 53, networked back to a head-end computer. See Photo E17. Basically all lighting in the facility is controlled through this system.

Observations
While functional, the system is severely dated by current standards and could fail catastrophically during an event.

Discussion
Micro-lite was absorbed by Lutron some years ago, a maker of lighting controls, and the product line was eventually discontinued. As a legacy product it has not been supported by Lutron for some time, and the relay control boards and other components are no longer available through normal distribution channels. Spares are not available, although some re-built/remanufactured products can be found via the internet. These are not reliable sources for replacements. Typical life cycle for lighting controls is 10 – 15 years, as this system is now 20 years old, it has passed expected operational life.

Recommendations
Since failure of a control board and lack of replacements would cause operational difficulties for an event, as lighting groups would have to be locally turned ON/OFF manually, it is strongly recommend the entire system be replaced with a system featuring current control technology and the ability to be monitored by the whole building control system.

LIGHTING | COST ESTIMATE		
Immediate	0 Year	$0
Emergency	0-1 Years	$2,005,831
Capital Repair	2-5 Years	$2,471,778
Capital Repair	6-10 Years	$0

TECHNOLOGY NARRATIVE

TECHNOLOGY NARRATIVE

Scope of Investigation
The audit of stadium technology systems included the following sub-systems:

- Low Voltage Infrastructure (TL stamp)
- RF Systems (TR stamp)
- Audio Visual/Security (TV stamp)

This report is based upon our inspection of the facility's technology equipment and cabling. We have endeavored to access and inspect all areas of the facility. The inspection services were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing. However, this type of inspection does not clearly reveal all defects and requires certain engineering assumptions be made to establish condition. These assumptions cannot always be verified without extensive testing, some of which can be destructive.

Therefore, this report is not to be considered a guarantee of the exact condition, life and total extent of potential repairs of the technology systems inspected.

LOW VOLTAGE INFASTRUCTURE

Description of System
The MDF is located on the Service Level. All stadium backbone fiber optic cabling, both singlemode and multimode, terminate in this large room. All stadium voice backbone cabling also terminates in this room. This MDF also houses the following headend equipment: active network electronics, telephony equipment, video surveillance, access control and NFL-specific headend equipment and electronics. Both AT&T and Verizon have their own service provider entry rooms in close proximity to the MDF.

The remainder of the stadium is serviced by approximately (40) telecommunications rooms (TR) that range in size from wall-mounted cabinets located under the stadium to adequately sized TR's with proper cooling, lighting and grounding to telecommunication enclosures located on the roof level. .

Both backbone and horizontal low voltage cabling is run in either cable tray, conduit, conduit sleeves and/or open cabling. Most penetrations are firestopped, though not all. Most telecommunication rooms are services by the telecommunications grounding system, though not all.

Observations
Each of the Telecommunication Rooms were observed during the audit. Existing conditions of all spaces, cabling and hardware are documented on a space by space basis within PlanGrid and are listed as "Informational". All of the systems observed have been adequately maintained.

Discussion
Our opinions within this document and PlanGrid are based on current BICSI and EIA/TIA standards as well as best practices used within the Telecommunications Industry today. Many of

the TR's were found to not be cooled properly and these issues are quantified within the Mechanical scope.

Recommendations
Based on our observations, again on a space by space basis, our recommendations are recorded within Plan Grid. Each recommendation is logged and listed with a timeframe as directed by the Audit.

In summary, some of the existing cabling systems are not suited for many current and future technologies. For instance, all of the existing Category 5 UTP cabling is past its warranty period and usable life and we recommend replacing all of this cabling with a minimum of Category 6 UTP cabling as this will allow for higher bandwidth and speeds. This new Category 6 UTP cabling should also be provided for all current analog telephone locations to be able to migrate to a VoIP telephone system to keep on par with the rest of the stadium.

Regarding the existing 62.5 micron multimode fiber optic cabling, we recommend replacing this cabling with new 50 micron multimode fiber optic cabling as this also allows for higher bandwidths and speeds needed for more demanding technologies. For this new cabling, we recommend providing new cable trays throughout the facility as most cable trays are at maximum capacity.

Many of the TR's have a grounding backbone, though not all. We recommend providing a Telecommunications Grounding backbone to each TR that is currently deficient and providing a dedicated Telecommunications Grounding Busbar (TGB) for all TR's. Once these TGB's are in place, we recommend properly bonding all racks, cable trays and conduits to this busbar as this is not currently the case.

All penetrations into each TR needs to be firestopped as this was not observed in 100% of the TR's. We recommend providing new firestopping for all penetrations into each TR as many of the existing firestopping putty's are starting to decay, crumble or are missing. Most of the existing firestopping pillows are missing and we are recommending providing new pillows in a method that secures these new pillows in place as recommended by the firestopping manufacturers.

RF SYSTEMS

Description of System

Both Verizon and AT&T house their Distributed Antenna Systems (DAS) equipment, hardware and cabling within many of the TR's and many distribution amplifiers are found attached to different building structures. These DAS's provide cellular coverage within the stadium.

The stadium is covered by WiFi for a wireless public network which is separate from the Browns corporate network. The stadium also has their own facilities radio system that is used throughout the facility.

Observations

Both the cellular DAS and the public WiFi were found to be installed recently. All DAS backbone cabling is by means of armored singlemode fiber optic cabling and all horizontal cabling is my means of coax. All WiFi backbone cabling is also armored singlemode fiber optic cabling and all horizontal cabling is Category 6A U/STP and is terminated on dedicated WiFi patch panels. The stadium's radio system was also found to be installed recently and is shared by both the Browns and the Cleveland Police Department. All of the systems observed have been adequately maintained.

Discussion

The cellular DAS, public WiFi and stadium radio networks were found to be in good working condition. Coverage and capacity of each system appears to be adequate for a stadium of this size, including on game day. Much of the WiFi is provided on its own wall mounted rack in a shared space while other WiFi installations consist of backbone and horizontal cabling and active electronics provided in existing TR's.

Recommendations

Continue to provide both DAS and WiFi coverage and capacity as needed, based on services being provided and on public demand. The WiFi systems are designed for ample future expansion.

AUDIO VISUAL AND SECURITY SYSTEMS

Description of System

All of the Access Control and Video Surveillance main headend equipment reside in the MDF. TR's throughout the facility house remote access control panels and power supplies and for video surveillance, all camera cabling is terminated on dedicated patch panels.

All suites are provided with both audio and video systems used to enhance the game day experience. In addition, all of the Browns Premium Clubs also use updated audio visual systems to enhance game day experiences.

Observations

Both the Access Control and Video surveillance systems were found to be installed recently. The networking of both systems are run on a fiber optic backbone and are segmented on their own VLAN.

All of the suite's video systems consist of a combination of ceiling mounted projectors and wall mounted TV monitors that are used to show both live game-day content as well as offering other broadcast television channels. Live game-day audio is also provided in each suite. An AV control panel is also located in the suite to control the projector's power as well as channel selection.

All broadcast media content is provided over the stadium-wide broadband coax cabling infrastructure. All broadband amplifiers are located within the TR's and each video display uses either an internal or external tuner to change channels. All of the broadband video cabling originates from the dedicated video distribution room located adjacent to the press box where individual channels are modulated from individual DirecTV set top boxes. These signals are then combined into one broadband network.

Discussion

The video surveillance and access control systems were found to be in good working condition. Both systems appear to be designed adequately in both coverage and quantity. All of the systems observed have been adequately maintained.

Each of the suites and Premium Clubs were observed during the audit. Existing conditions of all suites and clubs are documented on a space by space basis within PlanGrid. Each of the projectors within the suites are mostly only able to display a VGA signal and some are not functioning properly as addressed in our individual PlanGrid comments.

Recommendations

We recommend replacing the suite VGA video projectors with a minimum of 3000 lumen, 4K projectors to enhance the game-day experience within the next 2-5 years. In addition, we recommend providing new video processors in each suite with the capability for control and provide a side-by-side picture processor to mimic the current capabilities of the existing projectors. We also recommend immediately replacing the existing projectors that are currently either not functioning at all or not functioning properly (distorted and green-shifting images).

LOW VOLTAGE INFRASTRUCTURE | COST ESTIMATE		
Immediate	0 Year	$8,603
Emergency	0-1 Years	$356,787
Capital Repair	2-5 Years	$2,404,807
Capital Repair	6-10 Years	$0

AV / SECURITY | COST ESTIMATE		
Immediate	0 Year	$0
Emergency	0-1 Years	$7,680
Capital Repair	2-5 Years	$898,800
Capital Repair	6-10 Years	$0

BROADCAST NARRATIVE

BROADCAST NARRATIVE

Scope of Investigation

To investigate and understand the desired use of the current operating systems and equipment employed at the First Energy Cleveland Browns stadium.

To gather information with regards to current broadcast type equipment that is currently in use for Scoreboard video feeds, house Audio, Video monitoring systems, field official (referee) communications and sponsorship.

- Audio monitoring for Field officials.
- Graphics insertion for all video monitoring including scoreboards and House RF system
- Audio and Video Routing and switching systems
- Audio and Video Scaling and synchronization
- Network infrastructure internal to Control Area.
- Intercom and communications hardware
- Instant replay controller used during televised events for closed circuit viewing

Description of System

The Closed-circuit broadcast system as used in this installation is typical of a higher quality TV broadcast facility.

The various Systems are used for switching multiple inputs for display on numerous scoreboards and ribbon displays, and for feeding the various house monitoring systems via a multichannel RF distribution system to an estimated 3000 monitors.

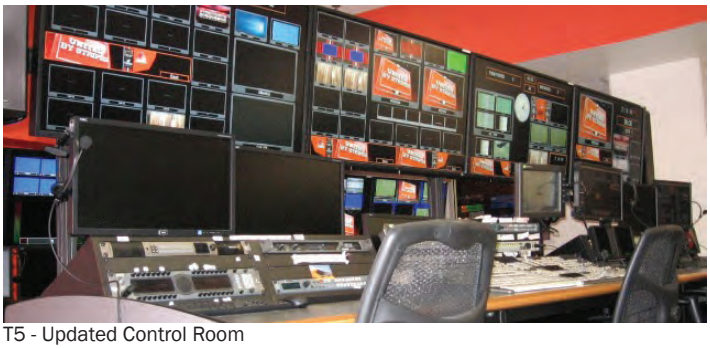
Synchronization equipment is used for all incoming audio and video signals for timing within the systems. This eliminates glitching of signals when switching between the various types of sources.

The switching in not limited to Video, but includes Audio follow video control, public address and announcer audio, plus intercom communication systems. Wireless Microphones are a major part of the audio system.

Graphics insertion is used for both promotional and sponsorship and is a major factor in the Stadiums income.

Observations

The Stadium was recently brought up to a more modern standard with a major equipment, systems and design renovation in 2016. See Photo T5.



T5 - Updated Control Room

The major video systems interface is HDSDI digital running over newer copper cabling conforming to SMPTE 292M. This is currently adequate for the desired use and produces good results.

Audio is handled by both copper and RF wireless systems. The limiting factor for the RF systems in use are the number of Frequencies available for the current type of system.

Video routing is supplied via an HDSDI Harris Platinum router that is currently structured for up to 256 inputs and 256 outputs. This is well within the requirements of the current production needs and sources available.

Video Switching is handled by a Grass Valley switching system with 64 inputs and 30 Auxiliary buses. Although this Switcher is relatively new, it will not handle I.P. addressable switching in the future. (Photo T6)

Audio routing is handled via a Midas analog mixer. This mixer is adequate for current operational needs but will need updated to a Digital mixing console in the future. See Photo T7.

Graphics is supplied by an older Chyron Mosaic Hyper X Graphics system. See Photos T8 & T8B.

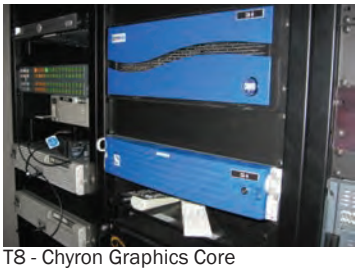
Rack room and control rooms are logically laid out considering the volume of equipment. Equipment appears to be well maintained. Documentation is also present and up to date.

T6 - Grass Valley Video Switching

T7 - Midas Audio Mixer

Discussion

The Broadcast complex has been extensively updated as recently as 2016 when a major control room remodel was completed along with the addition of many new core hardware



T8 - Chyron Graphics Core

T8B - Chyron Graphics Control

systems. Including routing, switching, and scoreboards. These newer systems are handling the current needs but will fall short within the next 3 to 5 years as Stadium fans become more accustomed to newer technologies such as Augmented and Virtual reality, and multilevel audio systems for half time entertainment.

The need to start incorporating IP addressable equipment will become more apparent as this technology continues to evolve for Broadcast equipment.

One area of concern should be the large number of Audio Video communication interface boxes installed in various locations around the stadium. These boxes were installed in 1999 and are showing major disrepair in the way of corrosion of the connector mounting hardware, and connector interface pins. Other items such as connector latching are wearing out. This is due to rough use and the elements these boxes are subjected to.

The Remote Truck interface panels which connect cameras through out the stadium need to be investigated for connector replacement due to wear. Particularly the female triax connectors at both the Truck interface box in the lower garage, and the Camera positions throughout the stadium.

Recommendations

The Chyron HyperX graphics system, although still hardware supported, is no longer software supported due to its Windows XP platform. Although the HyperX does include a clip player it only supports Standard Definition video. A modern Chyron System with advanced clip player would make a strong impact on the large Daktronic Field displays, allowing for High definition clip playback from multiple channels.

Modern systems would allow for more immersive Graphics with 3D capability to be displayed throughout the stadium. This would also be a good selling point for advertisers. There are many good systems on the market including Chyron, that should be evaluated and tailored to meet the specific requirements of this facility. Chyron, Ross, Avid, and VizRT should be considered. The routing system is currently operational and still supported but is limited to handling HDSDI serial digital and lesser signals only. Modern routing and infrastructure systems are moving to IP based architecture allowing for more flexibility, with access to/from and control options from multiple platforms. It also can eliminate the need for format conversion equipment. The current router does have the flexibility of handling AES and imbedded audio. Evertz, PESA, Utah, Grass Valley should be considered.

Remote Truck, Camera Audio and communications boxes should be replaced in the very near future. A normal life span for equipment like this that lives out in the elements would be 10 to 12 years. These boxes were installed in 1999 and are past end of life. These Boxes are custom built to order and connectors from Amphenol, Neutrix, Switchcraft, JAE, and EDAC should be specified to meet all weather and waterproofing standards.

Stadium PA audio quality should be assessed due to hot spots and imbalanced sound. The directionality of the speakers and the number of speakers in use should be evaluated along with proper equalization and delay to reduce echo and hot spots in various section of the bowl. This would positively impact the Fan experience. Note, the stadium should never be treated with a stereo Mix, especially if intended for Voice recognition.

The control room Cronus intercom system that is used for control room and field communications, manufactured by RTS, has reached end of life and will become an issue if parts availability diminishes. This should be considered for replacement. Options are Clear-Com, and RTS.

Consideration should be given to Remote Broadcast trucks and how they would interface.

A plan should be prescribed for evaluation of the 3000 video monitors around the stadium to insure monitors that are failing are replaced.

Although many Frame synchronizers were recently replaced, there are 6 installed in 2010 that are no longer supported. These units allow for incoming video and audio sources to be synchronized and locked with the house timing, to be cleanly displayed on all screens. Options are AJA. Evertz, For-A, Black Magic, Ensemble.

Note: With any future equipment purchases, IP addressable components should be confirmed whenever possible.

Recommended Replacement Schedule

2019

- #1 Interface boxes for Talent and Camera locations should be replaced. See Photos T1& T1B.
- Truck Interface Panels. Replace worn Connectors. See Photos T2 & T2B.
- #2 RTS communications frame and Intercom system should be considered for replacement in 2019, but no later than 2020. See Photo T3.
- #3 Frame syncs. Most of the frame syncs were replaced in the 2016 rebuild. There are still 6 that were installed in 2010 that should be considered for replacement in 2019. See Photo T4

2020

- #4 Control room Network Hub is currently a 10gig. Pipe for all operations. Each control station is allowed 1gig. of bandwidth from the router. Extra capacity if allowed by the Network core should be considered. As well as expanded NIC sizes in the various PC's There is currently 1 core fiber totaling 6 fiber lines. A separate core run from a different stadium direction should also be considered for a redundant back-up and future expansion.

2021

- #5 The Chyron Graphics system should be considered for replacement no later than 2021. See Photos T8 & T8B.

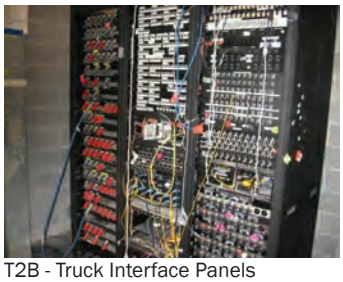
2022

- #6 Harris Platinum Router. Start looking at IP routing no later than 2022

2023

- #7 Replace Main audio Midas mixer. Consider Digital models now available by 2023. See Photo T7.

T2 - Truck Interface Panels



T2B - Truck Interface Panels

T3 - Intercom Panels

T1 - Stadium Interface panels

T1B - Internal View

T4 - Frame Synchronizers

BROADCAST | COST ESTIMATE		
#1 Interface Boxes	$71,680	2019
Truck Interface Panels, worn connectors only	$35,840	2019
#2 RTS Communications System	$143,360	2019-2020
#3 Frame Syncs (total 6)	$17,920	2019
#4 Network Gear (control room hub and fiber run)	$39,834	2020
#5 Control Room Graphics System	$355,657	2021
#6 Harris Platinum Multi format Router	$569,052	2022
#7 Midas Audio Board	$355,657	2023

APPENDIX A

ELEVATOR REPORT LETTER

October 12, 2015: REVISED: December 11, 2018

Mr. Don Husted - Director of Facilities
First Energy Stadium
100 Alfred Way
Cleveland, Ohio 44114

Re: Elevator Assessment

Dear Mr. Husted,

At the request of First Energy Stadium, Osborn Engineering and Kone personnel toured the site to assess the condition of Elevators 1 through 12 located throughout the facility on Friday, September 25, 2015.

EXECUTIVE SUMMARY:

First Energy Stadium retained Osborn Engineering to assess the condition of the existing elevator equipment and machine rooms in conjunction with Kone, who currently maintains the elevators. The escalators were not part of this examination. The report is based upon visual inspection of the identified systems and equipment. The inspection services were limited to a visual survey of existing conditions and exclude both non-destructive and destructive testing, therefore this report is not to be considered a guarantee of the exact condition, life and total extent of potential repairs of the facilities inspected .

FINDINGS AND RECOMMENDATIONS

ELEVATOR ROSTER:

- A quad: EA-1, EA-2, EA-3, EA-4
- B quad: EB-6, EB-7, EB-8, EB-9
- C quad: EC-10, EC-11, EC-12
- D quad: ED-13, ED-14

All elevators are connected to the emergency power system.

Observations are noted below. In addition, other items unrelated to the elevators were observed and have been noted.

Observations:

1. Per Kone, it is planned to upgrade all the elevator drives. Existing Allen-Bradley units date from original construction, are obsolete and spares are no longer available.
2. Smoke/Heat detectors in all machine rooms should be cleaned/tested.
3. All disconnect switches for elevator equipment appeared in good condition and were properly labeled.
4. D Quad (Northwest) machine room has inadequate ventilation as reported by the Elevator mechanics. Thermostat is not functioning properly.

1100 Superior Avenue Suite 300 | Cleveland, OH 44114
t 216 861 2020 | f 216 861 3329 | osborn-eng.com
441 Wolf Ledges Parkway Suite 300 | Akron, OH 44311
t 330 535 3132 | f 330 535 3195

5. Elevator EC-11 (Southwest Freight) cab light fixtures are in poor condition. (EA-3 similar)
6. Elevator EA-4 machine room: exhaust fan does not appear to be working, ambient temperature above normal, check thermostat and circuit breaker in panel.
7. Typical all elevators (except freight): the circuit for the cab A/C is tapped off the 480 V feed for the drive then stepped down to 120 V for the A/C unit. (See photo 3). This is a non-typical arrangement. The tap is made per Code, but it jeopardizes the integrity of the drive feeder.
8. Lighting in all machine rooms is fluorescent type dating from original construction.

Recommendations:

1. Proceed with the program to replace all drives. Currently completed and not included in opinion of costs.
2. Freight Elevator EC-11 and EA-3 cab light fixtures should be upgraded from T12 fluorescent to LED type.
3. Upgrade Machine room light fixtures from fluorescent to LED type.
4. Provide a dedicated 20 A/ 120 V circuit for the A/C unit for each cab, remove the tapped conductors and re-feed the disconnect switch and transformer.
5. With the upgrading of the elevator drives it is highly recommended that air conditioning be provided for each machine room, as the newer electronics are less temperature tolerant. Small dedicated split systems could be added to each room for a controlled environment. Elevators EC-12 and EA-4 would not require A/C as their drives are located in the basement level below grade, ambient cooling should be adequate.

Opinion of Probable Costs:

- Provide dedicated circuit for Elevator Car A/C: $1000.00 / elevator * 11 = $11,000.00
- Provide A/C for each elevator machine room: $10,000.00 * 9 = $90,000.00
- Update machine room lighting from T-12 fluorescent to LED: $1000.00/machine room * 9 = $9,000.00

Osborn Total = $110,000.00

See KONE, December 2018 Updates on next page for additional recommendations and costs.

We appreciate the opportunity to provide our professional services to First Energy Stadium. Please let us know of any additional questions or concerns.

Sincerely,
OSBORN ENGINEERING

David S. Basista, P.E.
Senior Electrical Engineer

December 2018 Updates
Cleveland Browns Stadium
Repairs/Upgrades Needed

KONE Inc.
6670 W. Snowville Road
BRECKSVILLE, OH 44141-3242
Tel 440-546-1100 x 216
Fax 440-546-1106
www.kone.com
judy.foreman@kone.com

- Install new cab interior panels to 9 passenger elevators: $50,000/car *9 = $450,000
- Install full Renova door operating package for Elevators #1, 2, 7, 8, 10, 12, 13, and 14: $54,500/car *9 = $490,500.
- Replace Freight Door astragals: $16,000 each *2 = $32,000.

KONE Total = $972,500.00

Projected Total (Osborn costs + KONE costs) = $1,082,500.00

APPENDIX B

PLANGRID SYSTEMS LISTING

DISCIPLINE COLORS

FIRE – RED
ARCH – ORANGE
STRUCTURAL – LIGHT BLUE
TECHNOLOGY – PURPLE
MECHANICAL – PINK
ELECTRICAL – DARK BLUE
LANDSCAPE – GREEN

LIST OF SYSTEM CATEGORIES

CIVIL

PlanGrid Stamp CL

A. Landscaping
   1. Lawns, Groundcovers, Ornamental Grasses, Perennials, Deciduous Shrubs/Trees, Evergreen Shrubs/Trees

B. Irrigation
   1. Controllers, Manual Valves, Solenoid Valves, Turf Pop-Sprinklers, Quick Coupler Valves

C. Site Amenities
   1. Planters, Benches, Trash Receptacles, Bicycle Racks, Picnic Tables

D. Fencing and Gates

PlanGrid Stamp CC

E. Sidewalks/Curbs
   1. Exterior Ramps

F. Pavements
   1. Drives, Plazas, Decorative Pavers

G. Retaining Walls

H. Castings
   1. Storm, Sanitary

ARCHITECTURAL

PlanGrid Stamp AG

A. Exterior Envelope

B. Concourse Areas

C. Ramps

D. General Seating

PlanGrid Stamp AT

E. Vertical Transportation
   1. Stairs, Escalators, Elevators

PlanGrid Stamp AS

F. Suites, Suite Corridors, Suite Elevator Lobbies

G. NFL Spaces

H. Food Service Areas

I. Miscellaneous Spaces

STRUCTURAL

PlanGrid Stamp SS

A. Concrete/Steel
   1. Spalls, Cracks, Guardrail Posts, Corrosion

PlanGrid Stamp SR

B. Interior Ramps and Bridges

PlanGrid Stamp SJ

C. Joints
   1. Expansion Joints, Control Joints

PLUMBING

PlanGrid Stamp PE

A. Plumbing hot water heaters

B. Backflow Preventers

PlanGrid Stamp PP

C. Plumbing fixtures

D. Distribution piping

HVAC

PlanGrid Stamp HG

A. VAV boxes

B. Air Handling units

C. Building Automation Systems

PlanGrid Stamp HE

D. Pumps

E. Chillers

F. AC Split systems

ELECTRICAL

PlanGrid Stamp EL

A. Lighting
   1. Controls
   2. Facility lighting
   3. Site lighting
   4. Field lighting

PlanGrid Stamp EP

B. Power:
   1. Normal Power, Unit Substations, Distribution
   2. Emergency Power, Generators, Distribution

PlanGrid Stamp EG

C. Lightning Protection

FIRE PROTECTION

PlanGrid Stamp FA

A. Fire Alarm

PlanGrid Stamp FS

B. Fire Suppression
   1. Fire Pump & Standpipe Systems
   2. Fire Suppression Systems (Wet pipe, dry pipe, chemical)

TECHNOLOGY

PlanGrid Stamp TL

A. Low Voltage Infrastructure
   1. Telecom Spaces and Pathways
   2. Structured Cabling Systems
   3. Horizontal Distribution
   4. Backbone
   5. Telecom Grounding Systems

B. Telephone System

C. Data System

PlanGrid Stamp TR

D. RF Systems
   1. Cellular
   2. WiFi
   3. Service and Operations
   4. Security
   5. First Responder

PlanGrid Stamp TB

E. Broadcast Audio Visual
   1. Television Production
   2. Control Room and Equipment
   3. Field Equipment
   4. Scoreboard/Videoboards
   5. Distribution
   6. Stadium Sound

PlanGrid Stamp TV

F. Audio Visual
   1. Suites and Premium Club

G. Sound
   1. Local Sound and/or Video Systems

H. Security

1. Access Control
2. Video Surveillance
3. Guard Tour
4. Intrusion Detection

APPENDIX C

STADIUM LEASE EXCERPT

Exhibit G: CAPITAL REPAIRS DEFINITION AND AUDIT REQUIREMENT FROM STADIUM LEASE

approval upon receipt of any consideration from either the Lessee or the party acquiring the naming rights.

(h) Promotions. All revenues, fees and charges from promotional activities relating to Browns and non-Browns activities.

(i) Other Events. Except for City Events, all revenues, fees and charges from all sporting, entertainment and other events held in the New Stadium including, without limitation, New Stadium rent, tickets, ticket surcharges, concessions, programs, novelties, and advertising.

13. Existing Pedestrian Walkway. The City shall undertake to maintain in a safe and prudent manner that certain existing pedestrian walkway extending from the Mall "C" ("Walkway") over certain railroad rights and under the Cleveland Memorial Shoreway to the Leased Premises.

14. Capital Repairs.

(a) Definition of Capital Repairs. Subject to the provisions of this Lease, including without limitation Sections 14(f) and 22(h), all Capital Repairs and, to the extent provided in Section 14(h), Emergency Repairs, shall be made by the City at the times and subject to the procedures and limitations specified in this Section 14, including without limitation Section 14(f). The principal source of funds for Capital Repairs shall be the Capital Repair Fund. The Capital Repair Fund shall be established and funded by the City as provided herein and (except as provided in Section 19(b)) shall be available only to make Capital Repairs. The Capital Repair Fund shall not be used for ordinary maintenance and repair obligations or for alterations, which are the responsibility of Lessee and are described in Section 11 of this Lease. "Capital Repairs" shall be defined as all Work for:

(i) prudent and extraordinary repairs;

(ii) repairs that have a useful life of greater than seven (7) years;

(iii) repairs that are necessary, in the Lessee's reasonable judgment, to maintain the roof, foundation and the structural integrity of the New Stadium and preserve its usefulness for the purposes for which it is being leased hereunder;

(iv) all "Capital Improvements," which are defined as all capital modifications or additions to the existing facilities in the New Stadium that maintain both the economic competitiveness of the New Stadium and its revenue potential as compared to other NFL stadia generally and create new revenue enhancing opportunities consistent with those provided in the top one-half of NFL stadia generally, and including modifications and additions that are intended to reduce the cost of the operation and maintenance of the New Stadium; and

(v) such modifications or additions required by applicable City of Cleveland, County of Cuyahoga, State of Ohio or federal laws, rules, regulations, or building codes, including accommodations required to be made under the Americans with Disabilities Act of 1990, as amended.

Capital Repairs shall also include:

(A) painting or application of protective coatings no more often than once every five (5) years;

(B) after exhaustion of claims against any third parties, items covered under warranty and items that are the result of unsatisfactory work on the initial construction of the New Stadium and replacements caused by settling (i.e., broken glass, cracked windows, concrete);

(C) replacement of carpeting no more than once every five (5) years;

(D) repairs to or replacement of the playing surface of the New Stadium but only if such repair or replacement is required as a result of the City's construction of other Capital Repairs;

(E) upgrades of components to field lighting and the scoreboard (including message board, bulbs and circuit breaker panels) no more often than once every ten (10) years; and

(F) cleaning of the exterior facade of the New Stadium no more often than once every ten (10) years.

Notwithstanding the foregoing, for the first ten (10) years following the Commencement Date, no Capital Improvements shall be deemed to be Capital Repairs; provided, however, that modifications or additions to existing television or cable broadcasting infrastructure and field lighting systems may be deemed to be Capital Repairs during such ten-year period if such modifications or improvements are required by NFL standards that apply generally to all stadia in which NFL football games are played.

Capital Repairs shall not include:

(H) items that would otherwise be Capital Repairs but that are necessitated by the actions of the Lessee and are not attributable to ordinary wear and tear;

(I) periodic painting or the application of protective coatings more frequently than once every five (5) years;

(J) repairs to carpeting or replacement of carpeting more frequently than once every five (5) years;

(K) repairs to or replacement of the playing surface within the New Stadium (unless such repair or replacement is required as a result of City's construction of other Capital Repairs);

(L) upgrades to components of the scoreboard more frequently than once every ten (10) years;

(M) upkeep of the exterior facade of the New Stadium, or cleaning the exterior facade of the New Stadium more frequently than once every ten (10) years;

(N) routine maintenance of plumbing systems, electrical systems, mechanical systems or heating, ventilation or air conditioning systems; or

(O) tenant fixtures, finishes, build-out materials and supplementary equipment in any public restaurants in the New Stadium.

Section 14, including Section 14(f). In any arbitration, the parties shall be entitled to conduct discovery in accordance with the applicable rules of the Federal Rules of Civil Procedure, with such modifications thereto as may be mutually agreeable to the parties. In the event the parties are unable to agree on the three arbitrators, the parties shall select the three arbitrators by striking alternatively (the first to strike being chosen by lot) from a list of thirteen arbitrators designated by the American Arbitration Association. Each of the parties to the arbitration shall bear the cost of the arbitration on such equitable basis as the arbitrators of the matter shall determine. Notwithstanding the foregoing, nothing in this Agreement shall preclude any party from filing any action in a court of competent jurisdiction seeking any temporary restraining order or preliminary injunction.

(f) Capital Repair Fund.

(i) The City shall establish a Capital Repair Fund as a segregated fund of the City, separate and apart from other funds of the City. The City shall annually deposit in the Capital Repair Fund the amounts shown on Schedule 14(f) (as such Schedule may be modified by the City to account for advance contributions in accordance with this subsection (f)), less amounts redirected from the Capital Repair Fund to the costs of constructing the New Stadium as described in Section 3.6 of the Stadium Financing Agreement.

(1) The funds in the Capital Repair Fund shall be invested by the City in the same manner as other City funds. Investment income earned on the amounts in the Capital Repair Fund shall remain in the Capital Repair Fund and shall not be used as a credit against future contributions. The City and the Lessee shall, prior to the Commencement Date, jointly develop an initial Capital Repair Fund Budget, which shall include, to the extent reasonably practicable, a percentage allocation of the

aggregate Capital Repair Fund as between Capital Improvement items and other Capital Repair items, schedules showing the various components of the improvements for which reserves should be established, appropriate reserves over the Term of the Lease for certain Capital Repairs that are not Capital Improvements (the "Reserves"), and any portions of the Reserves that the City believes will or may need to be used for Capital Repairs during any particular calendar year. Each year, after reviewing the then current Capital Repair Audit (as defined in Section 14(g)) and written requests by the Lessee for Capital Repairs, the City shall propose revisions to the Capital Repair Fund Budget. The Lessee shall have the opportunity to review and approve such proposed revisions to such percentages, schedules and Reserves, which approval shall not be unreasonably withheld, delayed or conditioned. The City and the Lessee agree to work together in good faith to agree on such percentages, schedules and Reserves. As provided in the NFL Agreement, in the event that any amount of the Capital Repair Fund is used for the initial construction of the New Stadium, a minimum amount of $500,000.00 should remain available for Capital Repairs upon completion of the New Stadium.

(2) The City shall proceed with reasonable diligence to make all Material Capital Repairs.

(3) If the Capital Repair is a Capital Improvement, the City shall be obligated to make such Capital Improvement only if funds other than Reserves and other than those previously allocated for Capital Repairs are available in the Capital Repair Fund. If sufficient funds are not then available in the Capital Repair Fund, the Lessee shall have the

right, but not the obligation, to fund the shortfall for such Capital Improvement as provided in Section 14(i). In no event shall the City be required to make Capital Improvements to the Leased Premises in excess of the amounts allocated to Capital Improvements in the Capital Repair Fund Budget.

(4) If there are not adequate funds available in the Capital Repair Fund (net of amounts committed for use) to cover the cost of a Capital Repair that is not a Capital Improvement or a Material Capital Repair, the City shall make the repair as soon as it is practical and prudent to do so, in the City's reasonable discretion, taking into account the City's responsibility as owner of the Stadium facility, the fiscal constraints of the City and the amount of Reserves then available and the amount of Reserves projected to be needed for other Capital Repairs pursuant to the Capital Repair Plans. To the extent that the City makes any Capital Repairs costing more than the amounts then available in the Capital Repair Fund to pay for such repairs, the City may pay for such Capital Repairs with advances of deposits scheduled to be made in future years, whereupon the City shall be permitted to revise the Capital Repair Fund amounts set forth on Schedule 14(f) and reduce dollar for dollar such deposits scheduled to be made in the future.

(ii) Any amounts from the Capital Repair Fund applied toward the construction of any Capital Repair may be distributed to the Lessee, to third parties or to the City as provided in this Section 14(f). The amounts payable shall be reimbursed, to the extent available from the Capital Repair Fund, following the Lessee's or the City's submission in writing to the City (or the Lessee) of a pay request which shall include:

(1) a summary of bills aggregating the total for which a reimbursement is being requested;

(2) a copy of each individual invoice from any architect, contractor or engineer or any other person charging a fee for work performed pursuant to Section 14;

(3) lien releases in a form reasonably satisfactory to the City, executed by such architect, contractor or engineer relating to invoices previously paid pursuant to a pay request; and

(4) requisitions for work completed which have been agreed to by the Lessee's contractor, the Lessee, the Lessee's architect and the Lessee's construction manager, if any.

(iii) All withdrawals from the Capital Repair Fund for the purpose of making Capital Repairs shall be countersigned by both parties. Any party refusing to sign such withdrawal request shall deliver to the other party a statement of the basis (with reasonable detail) for such recipient's objection thereto.

(g) Capital Repair Audit. Commencing on the fifth (5th) January 1 after the Commencement Date, and on each fifth (5th) January 1 thereafter during the term of this Lease, the City shall, as an expense of the Capital Repair Fund, provide the Lessee with a structural and capital component inspection report from a licensed engineer, reasonably acceptable to the Lessee, having at least ten (10) years of experience in performing structural and capital component inspections of commercial buildings, including stadia, and otherwise qualified to provide the information required hereunder (the "Capital Repair Engineer"). The

Capital Repair Engineer shall report on the condition of the structure and each capital component of the Leased Premises, which report shall include suggestions for any current Capital Repairs that are necessary to the Leased Premises and suggestions for revisions to the allocations in the Capital Repair Fund Budget (such report, the "Capital Repair Audit"). The City shall maintain a log for the Leased Premises, which log shall include a copy of all Capital Repair Audits as well as a record in reasonable detail of all Capital Repairs undertaken by the City or the City's agents or representatives.

(h) Emergency Repairs. Emergency Repairs shall be made by the City in accordance with law. However, in the event that the City does not timely make such Emergency Repairs, then the Lessee shall have the right to make such repairs, so long as the Lessee undertakes best efforts to notify the City of the need for such repairs before commencing to undertake the same. "Emergency Repairs" are those Capital Repairs which, if not immediately made, would endanger the health and safety of the people working in or attending an event in the New Stadium, would cause imminent damage to any significant component of the New Stadium, or would render the New Stadium, or any material mechanical, electrical or plumbing system or other significant component thereof, unusable for previously scheduled events. Notwithstanding the other provisions of Section 14, the Lessee may submit a request to the Lessor for payment of the cost of the repairs made by the Lessee for approval by the Lessor in accordance with the procedures and requirements set forth in Section 14(f). In the event that such repair qualifies as an Emergency Repair, then the Capital Repair Fund may be an eligible funding source for such repair. In making such Emergency Repairs, the Lessee shall comply with all the requirements of Section 14(f)(ii), and the costs of such Emergency Repairs shall be eligible for reimbursement to the Lessee from the Capital Repair Fund by the City only if the Lessee has complied with all of such requirements. The Emergency Repairs shall be the only exception to the normal pre-approval procedures established in this Section 14.

APPENDIX D

BUDGETARY CAPITAL REPAIR COSTS

Task #	Stamp	Title	Description	Cost	Time Period
836	AG	Architectural General	Located at the Trash Collection room, door is in good condition but needs adjustment. The door sticks when opening and closing.	$304	0-0 - Immediate Repairs
835	AG	Architectural General	Located in Suite 201, rusting steel on end cap suite. An estimated 50 SF of surface to be repainted.	$633	0-0 - Immediate Repairs
834	AG	Architectural General	Located in Suite 205, damaged ceiling grid. An estimated 4 LF of damaged ceiling grid to be replaced.	$91	0-0 - Immediate Repairs
833	AG	Architectural General	Located in Suite 206, rusting ceiling grid in restroom near mechanical vent. Area of restroom is estimated to be 36 SF.	$205	0-0 - Immediate Repairs
832	AG	Architectural General	Located in Suite 209, rusting ceiling grid in restroom near mechanical vent. Area of restroom is estimated to be 36 SF.	$205	0-0 - Immediate Repairs
830	AG	Architectural General	Located in Suite 215, rusting ceiling grid in restroom near mechanical vent. Area of restroom is estimated to be 36 SF.	$205	0-0 - Immediate Repairs
829	AG	Architectural General	Within Suite 222, there is possible water damage in wall from sink. An estimated 40 SF of gypsum board wall would need repaired and an estimated 20 SF of millwork would need replaced.	$1,973	0-0 - Immediate Repairs
828	AG	Architectural General	Located in Suite 225, there is possible water damage along the wall. Water damaged appears to be within the wall system and could be from mechanical coils leaking from above. An estimated 175 SF of gypsum wall board would be replaced.	$1,107	0-0 - Immediate Repairs
827	AG	Architectural General	Located in Suite 227, there is possible water damage along the wall. Water damaged appears to be within the wall system and could be from mechanical coils leaking from above. An estimated 175 SF of gypsum wall board would be replaced.	$1,107	0-0 - Immediate Repairs
821	AG	Architectural General	Missing cover plate.	$63	0-0 - Immediate Repairs
819	AG	Architectural General	Corner guards needed.	$95	0-0 - Immediate Repairs
817	AG	Architectural General	Door adjustment needed.	$304	0-0 - Immediate Repairs
810	AG	Architectural General	Located at Suite 256, door is in good condition but needs adjustment. The door sticks when opening and closing.	$304	0-0 - Immediate Repairs
807	AG	Architectural General	Located at Suite 272, detailing at expansion joint. Drywall damage and baseboard damage (water). An estimated 40 LF of expansion joint repair is required. Refer to Quad B, Suite 228 for good joint detail in restroom.	$4,200	0-0 - Immediate Repairs
738	AG	Architectural General	Mold growth on ceiling between suite 418 and suite 419. Assume water damage from upper concourse deck (open sealant joints and crack repair per structural).	$56	0-0 - Immediate Repairs
684	AG	Architectural General	Located in the Kitchen, the existing cooler/freezer does not have a condensate line to drain. An estimated 1 LF of piping is required to connect current piping to existing drain.	$253	0-0 - Immediate Repairs
682	AG	Architectural General	Located at the electrical room, condensation is forming at the ceiling, causing mold growth on the wall below. An estimated 30 SF of gypsum board ceiling repair. As estimated 100 SF of gypsum board wall repair. A quantity of 2-2x4 ceiling tiles need replaced on hallway side of wall outside of electrical room.	$1,027	0-0 - Immediate Repairs
678	AG	Architectural General	Door out of adjustment.	$304	0-0 - Immediate Repairs
676	AG	Architectural General	Mold growth behind 3-bay sink. No FRP wall finish in kitchen area. An estimated 600 SF of FRP required.	$8,349	0-0 - Immediate Repairs
675	AG	Architectural General	One 3x6 tile missing on condiment counter in Hard Land Club.	$190	0-0 - Immediate Repairs
661	AG	Architectural General	Water damage to finish ceiling in Finance office. Located in the Service Level, assume water damage caused by blocked/damaged gutter and drainage system located in the deck seating above. Replace partial ceiling. Finish ceiling is 2x2 acoustical panel ceiling. Area of ceiling to be replaced 150 SF.	$854	0-0 - Immediate Repairs
341	AG	Architectural General	Ceiling insulation missing, damaged, and/or deteriorating. Assume faced, batt insulation, R11. 100 SF.	$506	0-0 - Immediate Repairs
155	AG	Architectural General	Sagging and damaged insulation. Area of estimated damage is 50 SF.	$506	0-0 - Immediate Repairs
154	AG	Architectural General	Water damage along entire wall of offices. Water damaged walls, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Area of wall within the room is estimated to be 300 SF. Damage may occur behind soffit location.	$1,898	0-0 - Immediate Repairs
153	AG	Architectural General	Withing the Food Storage and Cooler/Freezer area of the Service Level, Cooler/freezer is leaking at the door and causing ice build up near the entry of the cooler/freezer. The door does not shut properly. A new cooler/freezer door is required along with the proper seal.	$4,428	0-0 - Immediate Repairs
149	AG	Architectural General	Water damage on ceiling tiles in open locker area. Water-stained and sagging ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Area of estimated damage that required repair is 50 SF.	$285	0-0 - Immediate Repairs
148	AG	Architectural General	Water damage and sagging ceiling in Assistant Coaches Showers. Water-stained ceiling, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Area of room in need of repair is estimated to be 50 SF.	$1,012	0-0 - Immediate Repairs
147	AG	Architectural General	At corner within showers, 2-2x2 wall tiles are cracked and damaged, 1- blue, and 1-beige.	$190	0-0 - Immediate Repairs
146	AG	Architectural General	Within the shower, the wall-mounted seat is not properly attached to the wall.	$253	0-0 - Immediate Repairs
143	AG	Architectural General	Water leaking from above. Area of estimated repair is 24 SF.	$152	0-0 - Immediate Repairs
56	AG	Architectural General	Caulk and seal replacement. An estimated 25 LF of caulk and sealant is required.	$221	0-0 - Immediate Repairs
39	AG	Architectural General	Replace weatherstripping at threshold of storefront doors. (PR) 3ft. wide x 7ft. high.	$506	0-0 - Immediate Repairs
29	AG	Architectural General	Caulk between granite panels missing in specified location. An estimated of 6 LF of caulk is required for this specified image.	$106	0-0 - Immediate Repairs
948	CL	Civil Landscape	Irrigation: Replace broken pipe	$200	0-0 - Immediate Repairs

945	CL	Civil Landscape	Add irrigation sprinkler where missing	$192	0-0 - Immediate Repairs
944	CL	Civil Landscape	Add 3 irrigation sprinklers where walk added	$569	0-0 - Immediate Repairs
943	CL	Civil Landscape	Add irrigation system where removed to repair waterproofing (3,200 SF)	$4,372	0-0 - Immediate Repairs
939	CL	Civil Landscape	Add irrigation sprinkler in corner	$192	0-0 - Immediate Repairs
934	CL	Civil Landscape	Replace Clogged Irrigation Sprinkler	$190	0-0 - Immediate Repairs
927	CL	Civil Landscape	Relocate 3 irrigation sprinklers 5' south (to curb edge)	$380	0-0 - Immediate Repairs
919	CL	Civil Landscape	Replace 3 Missing or Broken Sprinklers	$569	0-0 - Immediate Repairs
914	CL	Civil Landscape	Replace Missing Irrigation Sprinkler	$190	0-0 - Immediate Repairs
913	CL	Civil Landscape	Replace Missing Irrigation Sprinkler	$190	0-0 - Immediate Repairs
912	CL	Civil Landscape	Replace Missing Irrigation Sprinkler	$190	0-0 - Immediate Repairs
911	CL	Civil Landscape	Replace Clogged Irrigation Sprinkler	$190	0-0 - Immediate Repairs
875	CL	Civil Landscape	Replace Missing Irrigation Sprinkler	$190	0-0 - Immediate Repairs
621	CL	Civil Landscape	Precast concrete copings on plant bed are breaking. Replace all copings on plant bed. Please see attached drawing for dimensions. (Please note, thickness of coping is 6").	$10,752	0-0 - Immediate Repairs
617	CL	Civil Landscape	Precast concrete copings on plant bed are breaking. Replace all copings on plant bed. Please see attached drawing for dimensions. (Please note, thickness of coping is 6").	$10,626	0-0 - Immediate Repairs
574	CL	Civil Landscape	Cracking and deficiencies in trash receptacle. One receptacle should be replaced.	$1,898	0-0 - Immediate Repairs
573	CL	Civil Landscape	Missing lid to trash receptacle. Replace lid on trash receptacle.	$316	0-0 - Immediate Repairs
565	CL	Civil Landscape	Missing lid to trash receptacle. Replace 1 trash receptacle lid.	$316	0-0 - Immediate Repairs
546	CL	Civil Landscape	Precast concrete copings on plant bed are breaking. Replace all copings on plant bed. Please see attached drawing for dimensions. (Please note, thickness of coping is 6").	$10,752	0-0 - Immediate Repairs
538	CL	Civil Landscape	Precast concrete copings on plant bed are breaking. Replace all copings on plant bed. Please see attached drawing for dimensions. (Please note, thickness of coping is 6").	$10,626	0-0 - Immediate Repairs
970	FS	Fire Suppresion	Ansul pull station broken and should be repaired	$291	0-0 - Immediate Repairs
1312	HE	HVAC Equipment	Unit in control room has stopped functioning. Replace with new mini split of equivalent capacity. Estimated as 10 ton Mitsubishi Mini Split	$30,683	0-0 - Immediate Repairs
1259	HE	HVAC Equipment	Primary - Secondary bridge piping was installed incorrectly during Stadium construction. Chilled water flow is inadequate to the south side of the stadium leading to warmer than acceptable temperatures on the south side.	$63,250	0-0 - Immediate Repairs
1111	HE	HVAC Equipment	Replace condenser and evaporater Condenser: CFO300L4S-E Evaporator: CL6E077DDAEL	$10,170	0-0 - Immediate Repairs
1110	HE	HVAC Equipment	Repair ceiling. Replace condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1109	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1108	HE	HVAC Equipment	Repair ceiling (exposed insulation). Replace condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1107	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1106	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs

1105	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1104	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1103	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO200e4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1102	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL67A094ADAEL	$8,454	0-0 - Immediate Repairs
1101	HE	HVAC Equipment	Replace condenser and evaporator. Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1100	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1099	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1098	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1087	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CLGA094ADAEL	$8,454	0-0 - Immediate Repairs
1084	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: Cl6A094ADAEL	$8,454	0-0 - Immediate Repairs
1070	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO300E4S-E Evaporator: CL6E077DDAEL	$10,170	0-0 - Immediate Repairs
1069	HE	HVAC Equipment	Replace evaporator and condenser Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1068	HE	HVAC Equipment	Replace evaporator and condenser Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs

1066	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1064	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1063	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1062	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO300E4S-E Evaporator: CL6E077DDAEL	$10,170	0-0 - Immediate Repairs
1061	HE	HVAC Equipment	Replace condeneser and evaporator Condenser: CFO300E4S-E Evaporator: CL6E077DDAEL	$10,170	0-0 - Immediate Repairs
1060	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1059	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1058	HE	HVAC Equipment	Replace evaporator Evaporator: CL6A117ADAEL	$3,596	0-0 - Immediate Repairs
1057	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1056	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1055	HE	HVAC Equipment	Repair wall damage. Replace condenser and evaporator. Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$9,086	0-0 - Immediate Repairs
1054	HE	HVAC Equipment	Replace existing condenser and evaporator Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1053	HE	HVAC Equipment	Repair ceiling. Replace existing condensing unit and evaporator	$10,032	0-0 - Immediate Repairs
1052	HE	HVAC Equipment	Repair ceiling. Replace condenser and evaporator. Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$10,032	0-0 - Immediate Repairs

1051	HE	HVAC Equipment	Repair interior damage. Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$9,086	0-0 - Immediate Repairs
1050	HE	HVAC Equipment	Replace condenser and evaporator. Condenser: CFO100M4S-E Evaporator: CL6904ADAEL	$8,454	0-0 - Immediate Repairs
1047	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO200EFS-E Evaporator: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1046	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1045	HE	HVAC Equipment	Replace evaporator and condenser Condesner: CFO300L4S-E Evaporator: CL6E077DDAEL	$10,170	0-0 - Immediate Repairs
1044	HE	HVAC Equipment	Replace evaporator and condenser Cond: CFO100M4S-E Evap: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
1043	HE	HVAC Equipment	Replace evap and cond. New evaporator: CFO200E4S-E New cond: CL6A161ADAEL	$9,400	0-0 - Immediate Repairs
1041	HE	HVAC Equipment	Repair ceiling, wall damage, and exposed insulation around sprinkler head. Replace evaporator and condenser. New condenser: CFO100M4S-E New evaporator: CL6A094ADAEL	$9,402	0-0 - Immediate Repairs
294	HE	HVAC Equipment	Fan not moving. Wall is coming undone. Replace fan unit and repair wall.	$4,626	0-0 - Immediate Repairs
288	HE	HVAC Equipment	Heavy ice buildup. Fan out of balance. Replace fan unit.	$6,325	0-0 - Immediate Repairs
241	HE	HVAC Equipment	Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
207	HE	HVAC Equipment	Sagging ceiling. Repair ceiling. Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$9,086	0-0 - Immediate Repairs
206	HE	HVAC Equipment	Repair ceiling sagging from condenser above. Fan coil unit dripping. Replace condenser and evaporator. Repair ceiling (exposed insulation) Condenser: CFO200E4S-E Evaporator: CL6A161ADAEL	$10,032	0-0 - Immediate Repairs

205	HE	HVAC Equipment	Ice on coil. Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$8,454	0-0 - Immediate Repairs
203	HE	HVAC Equipment	Repair ceiling and wall damage. Replace condenser and evaporator. Condenser: CFO100m4S-E Evaporator: CL6A094ADAEL	$9,086	0-0 - Immediate Repairs
132	HE	HVAC Equipment	CHW leak. Isolate pipe leak and repair as required.	$1,337	0-0 - Immediate Repairs
1042	HG	HVAC VAV/AHU/BAS	Repair wall damage in corner and gap between sprinkler head and ceiling. Replace evaporator and condenser. New Condesner: CFO100M4S-E New Evaporator: CL6A094ADAEL	$9,086	0-0 - Immediate Repairs
107	PE	Plumbing Equipment	Water flow undrinkable. Replace button mechanism on water fountain.	$292	0-0 - Immediate Repairs
1262	PP	Plumbing Piping/Fixtures	Underground storm broken 5' from 90 degree elbow going underground. Break up concrete to expose pipe and repair	$11,385	0-0 - Immediate Repairs
1247	PP	Plumbing Piping/Fixtures	Install (12) 1 1/2" drain valves on DCW system to allow for thorough draining of system during the offseason	$4,205	0-0 - Immediate Repairs
963	PP	Plumbing Piping/Fixtures	Replace all galvinized DCW piping to eliminate excessive flushing on events after a long down time (500' of 4" pipe)	$60,720	0-0 - Immediate Repairs
845	TL	Technology Low Voltage	High pair copper 66 block ripped off wall Mount 66 block back to wall	$380	0-0 - Immediate Repairs
838	TL	Technology Low Voltage	Racks were removed. DAS cable pass through Provide firestopping for (7) 4”c Provide firestopping for 9” cable tray, new bricks	$3,922	0-0 - Immediate Repairs
493	TL	Technology Low Voltage	Racks were removed. DAS cable pass through (13) cat 6 cabling on 110 block cross connect Provide firestop for (8) 4”c Provide firestop for 9” cable tray, new bricks	$4,301	0-0 - Immediate Repairs

Total: **$694,925**

Task #	Stamp	Title	Description	Cost	Time Period
1384	AG	Architectural General	Perimeter entrance gates (main concourse). Gate steel surfaces rusting. Gate hinges damaged/rusting. Cane bolts/drop rods damaged/missing. Refinish/repaint gate surfaces. (PR) Gates are 8FT. wide x 10FT. 6 PR total. Replace hinges. Hinges are round body barrel weld-on type, (PR) 3. Replace cane bolts/drop rods, (PR) 1.	$25,200	0-1 - Emergency Repairs
1117	AG	Architectural General	Debris on upper concourse roof area above concession, northwest end. Clean debris and check/snake roof drains. 1,800 S.F. of roof area with 2 drains.	$1,792	0-1 - Emergency Repairs
1036	AG	Architectural General	Door is sticking closed, very difficult to enter	$307	0-1 - Emergency Repairs
823	AG	Architectural General	In Suite 235 within the restroom, there appears to be water damage along the wall just below the outlet adjacent to the sink. An estimated 10 SF of wall will need cleaned.	$64	0-1 - Emergency Repairs
809	AG	Architectural General	Located in Suite 259, the door to the exterior seating is in good condition but needs adjustment. The door sticks when opening and closing.	$307	0-1 - Emergency Repairs
800	AG	Architectural General	Finish ceiling damaged. Replace partial finish ceiling. 2 x 2 ceiling with grid. Assume. 25 S.F.	$176	0-1 - Emergency Repairs
799	AG	Architectural General	Finish Floor damage. Replace area of epoxy flooring damage. 100 S.F.	$1,216	0-1 - Emergency Repairs
794	AG	Architectural General	Replace sealant/caulk at expansion joint perimeter. 30 L.F.	$269	0-1 - Emergency Repairs
783	AG	Architectural General	Missing floor base. Add new rubber floor base. 6 inch height. 40 linear feet.	$205	0-1 - Emergency Repairs
760	AG	Architectural General	Door off center and jammed shut	$307	0-1 - Emergency Repairs
683	AG	Architectural General	An estimated 20 LF of perimeter door frame sealant needed.	$179	0-1 - Emergency Repairs
680	AG	Architectural General	Expansion joint cover conflicts with door operation.	$307	0-1 - Emergency Repairs
672	AG	Architectural General	Sealant/caulk at window sill in this area. An estimated 80 LF of sealant/caulk is required.	$717	0-1 - Emergency Repairs
671	AG	Architectural General	Located in the Hard Land Club, there is rusting of steel and door thresholds facing North (towards the Lake) are rusting and worn. An estimated 100 SF of steel required refinish and repaint. An estimated 8 thresholds required replacement.	$4,352	0-1 - Emergency Repairs
667	AG	Architectural General	Water damage on ceiling tiles in office in storage area across from Browns Lockers. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 3-2x4 tiles need replaced.	$137	0-1 - Emergency Repairs
666	AG	Architectural General	It appears that the insulation was ripped back to fix a previous damage. Replace insulation and add insulation beginning at plywood above CMU. Water damage on concrete beam. Area of estimated insulation repair is near mechanical duct work is 100 SF. Area of estimated insulation installed on plywood is 800 SF.	$512	0-1 - Emergency Repairs
660	AG	Architectural General	Water damage on ceiling tiles in Event Services Storage. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 3-2x4 tiles need replaced.	$138	0-1 - Emergency Repairs
659	AG	Architectural General	Water damage on ceiling tiles in Game Day Serviced Cleaning Storage. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 2-2x4 tiles need replaced.	$92	0-1 - Emergency Repairs
658	AG	Architectural General	Water damage on ceiling tiles down entire column line in Game Day Serviced Cleaning Storage. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Area of damaged tile within the room is estimated to be 80 SF.	$461	0-1 - Emergency Repairs
656	AG	Architectural General	Mechanical diffuser is constantly running in Conference Room. Water damage on ceiling tiles in Conference Room. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 2-2x4 tiles need replaced. Over a 6-10 year period, ceiling tile is recommended to be replaced due to age. Area of room is estimated to be 250 SF.	$92	0-1 - Emergency Repairs
655	AG	Architectural General	Water damage on ceiling tiles in Office. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 3-2x4 tiles need replaced.	$138	0-1 - Emergency Repairs
654	AG	Architectural General	Water damage on ceiling tile in Reception. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 3-2x4 tiles need replaced. Due to warping, age of tiles, and quantity of tiles damaged, replacement of ceiling is recommended. Area of room is estimated to be 250 SF.	$1,440	0-1 - Emergency Repairs
614	AG	Architectural General	Door hinges are separated from frame	$435	0-1 - Emergency Repairs
606	AG	Architectural General	Water damaged ceiling tile in Medical Storage Area across from First Aid. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 2-2x4 tiles need replaced.	$92	0-1 - Emergency Repairs
605	AG	Architectural General	Ceiling tile damage in First Aid. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 4-2x4 tiles need replaced.	$184	0-1 - Emergency Repairs
604	AG	Architectural General	Water damage on ceiling tiles in Law Enforcement offices and storage. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 3-2x4 tiles need replaced	$138	0-1 - Emergency Repairs
603	AG	Architectural General	Water damage on ceiling tiles in Men's restroom. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 4-2x4 tiles need replaced.	$184	0-1 - Emergency Repairs

599	AG	Architectural General	Water damage on ceiling tiles in Media Room. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 6-2x4 tiles need replaced.	$276	0-1 - Emergency Repairs
596	AG	Architectural General	Water damage on ceiling tiles in Uniform Checkout. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 1-2x4 tiles need replaced.	$92	0-1 - Emergency Repairs
217	AG	Architectural General	Located in the mechanical room, installation has been removed. Area of estimated repair is 12 SF.	$307	0-1 - Emergency Repairs
215	AG	Architectural General	Located outside of the stairs and main telephone room, installation is falling and damaged. Area of estimated damage is 50 SF.	$512	0-1 - Emergency Repairs
214	AG	Architectural General	Ceiling tile damage in the locker area. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 1-2x4 tiles need replaced.	$46	0-1 - Emergency Repairs
213	AG	Architectural General	Ceiling tile damage in locker area. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 1-2x4 tiles need replaced.	$46	0-1 - Emergency Repairs
151	AG	Architectural General	Ceiling tiles are warped and bowing in this location. Area of room is estimated to be 200 SF.	$1,408	0-1 - Emergency Repairs
139	AG	Architectural General	Insulation is torn and damaged. Area estimated to be repaired is 20 SF.	$205	0-1 - Emergency Repairs
138	AG	Architectural General	Insulation is torn and damaged. Area estimated to be repaired is 20 SF.	$205	0-1 - Emergency Repairs
67	AG	Architectural General	An estimated 150 LF of control joint covers replacement in each Quad for each level. An estimated 600 LF of control joint covers replacement per Level of Stadium.	$65,280	0-1 - Emergency Repairs
345	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 100 LF Structural cracks = 10 LF Guardrail post sealant = 20 each Guardrail post concrete = 20 each Backer rod / sealant = 325 LF Grind concrete = 20 LF Control joint = 2,500 LF 4" Sidewalk replacement = 50 SF 8" Pavement replacement = 20 SF 6" Curb replacement = 10 LF	$36,595	0-1 - Emergency Repairs
342	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 100 LF Structural cracks = 10 LF Guardrail post sealant = 10 each Guardrail post concrete = 10 each Backer rod / sealant = 325 LF Grind concrete = 20 LF Control joint = 2,500 LF 4" Sidewalk replacement = 50 SF 8" Pavement replacement = 20 SF 6" Curb replacement = 10 LF	$31,923	0-1 - Emergency Repairs
338	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 100 LF Structural cracks = 20 LF Guardrail post sealant = 0 each Guardrail post concrete = 0 each Backer rod / sealant = 325 LF Grind concrete = 50 LF Control joint = 2,500 LF 4" Sidewalk replacement = 75 SF 8" Pavement replacement = 50 SF 6" Curb replacement = 80 LF	$33,824	0-1 - Emergency Repairs
335	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 100 LF Structural cracks = 30 LF Guardrail post sealant = 20 each Guardrail post concrete = 10 each Backer rod / sealant = 325 LF Grind concrete = 20 LF Control joint = 2,100 LF 4" Sidewalk replacement = 75 SF 8" Pavement replacement = 400 SF 6" Curb replacement = 20 LF	$38,048	0-1 - Emergency Repairs
961	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
950	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace irrigation controls on entire site with a new two-wire system. In this quadrant, replace a minimum of 690 linear feet of existing wire and install 5 decoders for solenoid valves. (Please note, all solenoid valves should also be replaced regardless of a two-wire system conversion; therefore, solenoid valve replacement has been called out as a separate issue).	$4,921	0-1 - Emergency Repairs
947	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
946	CL	Civil Landscape	Irrigation: Replace 1" size Solenoid Valve	$128	0-1 - Emergency Repairs
942	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
940	CL	Civil Landscape	Irrigation: Replace 1-1/4" size Solenoid Valve	$218	0-1 - Emergency Repairs
938	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
937	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
936	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
935	CL	Civil Landscape	Irrigation: Replace 1" size Solenoid Valve	$205	0-1 - Emergency Repairs
933	CL	Civil Landscape	Irrigation: Replace 2" size Solenoid Valve	$243	0-1 - Emergency Repairs
932	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs

931	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
928	CL	Civil Landscape	Irrigation: Replace 2" size Solenoid Valve	$243	0-1 - Emergency Repairs
926	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
925	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
924	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
922	CL	Civil Landscape	Irrigation: Replace 1-1/4" size Solenoid Valve	$218	0-1 - Emergency Repairs
921	CL	Civil Landscape	Add R-VAN 14 Nozzles to sprinklers (8 total)	$717	0-1 - Emergency Repairs
920	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
918	CL	Civil Landscape	Irrigation: Replace 2" size Solenoid Valve	$243	0-1 - Emergency Repairs
917	CL	Civil Landscape	Irrigation: Replace 2" size Solenoid Valve	$243	0-1 - Emergency Repairs
916	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
915	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
910	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
909	CL	Civil Landscape	Irrigation: Replace 1-1/2" size Solenoid Valve	$230	0-1 - Emergency Repairs
908	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace irrigation controls on entire site with a new two-wire system. In this quadrant, replace existing controller with one (1) two-wire ET-capable controller (including a minimum of 1,100 linear feet of rewiring) and install 8 decoders for solenoid valves. (Please note, all solenoid valves should also be replaced regardless of a two-wire system conversion; therefore, solenoid valve replacement has been called out as a separate issue).	$6,388	0-1 - Emergency Repairs
907	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace irrigation controls on entire site with a new two-wire system. In this quadrant, replace existing controller with one (1) two-wire ET-capable controller (including a minimum of 830 linear feet of rewiring) and install 8 decoders for solenoid valves. (Please note, all solenoid valves should also be replaced regardless of a two-wire system conversion; therefore, solenoid valve replacement has been called out as a separate issue).	$6,047	0-1 - Emergency Repairs
906	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace irrigation controls on entire site with a new two-wire system. In this quadrant, replace existing controller with one (1) two-wire ET-capable controller (including a minimum of 720 linear feet of rewiring) and install 4 decoders for solenoid valves. (Please note, all solenoid valves should also be replaced regardless of a two-wire system conversion; therefore, solenoid valve replacement has been called out as a separate issue).	$4,643	0-1 - Emergency Repairs
905	CL	Civil Landscape	Irrigation: Replace 4" Manual Valve	$512	0-1 - Emergency Repairs
902	CL	Civil Landscape	Rusting and peeling on top of trash receptacle. Minor cracking in concrete portion of receptacle. Replace one trash receptacle.	$1,920	0-1 - Emergency Repairs
901	CL	Civil Landscape	Trash receptacle is in poor condition. One trash receptacle should be replaced.	$1,920	0-1 - Emergency Repairs
900	CL	Civil Landscape	Rusting on top of trash receptacle. Concrete is experiencing minor cracking. One trash receptacle should be replaced.	$1,920	0-1 - Emergency Repairs
877	CL	Civil Landscape	Irrigation: Replace 2" size Solenoid Valve	$243	0-1 - Emergency Repairs
865	CL	Civil Landscape	Relocate/add irrigation sprinkler in dry corner	$192	0-1 - Emergency Repairs
627	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Air-spade and root prune trees to reverse negative effects. Quantity = 11 trees needing treatment in plant bed.	$2,816	0-1 - Emergency Repairs
592	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Remove excessive mulch, air-spade and root prune trees to reverse negative effects. Quantity = 2 trees needing treatment in plant bed.	$512	0-1 - Emergency Repairs
591	CL	Civil Landscape	Rusting on top of trash receptacle. Receptacle wrap is in below-average condition. Concrete portion of receptacle is experiencing minor cracking. One trash receptacle should be replaced.	$1,920	0-1 - Emergency Repairs
588	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Remove excessive mulch, air-spade and root prune trees to reverse negative effects. Quantity = 6 trees needing treatment in plant bed.	$1,536	0-1 - Emergency Repairs
585	CL	Civil Landscape	Rusting and peeling on top of trash receptacles. Receptacle wraps are also in poor condition. Concrete portion of receptacles also contains minor cracking. Replace 2 trash receptacles.	$3,840	0-1 - Emergency Repairs
579	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Remove excessive mulch, air-spade and root prune trees to reverse negative effects. Quantity = 4 paperbark maples needing treatment.	$1,024	0-1 - Emergency Repairs
578	CL	Civil Landscape	Cracking in corner of concrete (planter) curb. Replace corner of curb (5ft).	$384	0-1 - Emergency Repairs
569	CL	Civil Landscape	Hemlock tree is in poor condition. Remove and replace one hemlock tree.	$896	0-1 - Emergency Repairs
568	CL	Civil Landscape	Remove invasive Blue Lyme Grass, as it has begun to overtake other shrubs/plants in the bed. Replace with non-invasive shrubs. (Quantity is approx. 1800 ft^2).	$11,520	0-1 - Emergency Repairs
567	CL	Civil Landscape	Remove invasive Blue Lyme Grass. Replace with non-invasive shrub or turf/lawn. (Quantity is approx. 325 ft^2).	$2,080	0-1 - Emergency Repairs
561	CL	Civil Landscape	Top of trash receptacle is rusting. Concrete is experiencing minor cracking. One trash receptacle shall be replaced.	$1,920	0-1 - Emergency Repairs
556	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Remove excessive mulch, air-spade and root prune trees to reverse negative effects. Quantity = 6 trees needing treatment in plant bed.	$1,536	0-1 - Emergency Repairs
554	CL	Civil Landscape	Rusting on top of trash receptacle. Receptacle wrap is in below-average condition. Concrete is experiencing minor cracking. One trash receptacle should be replaced.	$1,920	0-1 - Emergency Repairs

552	CL	Civil Landscape	Cracking in curb. Replace 10 feet of concrete curb.	$768	0-1 - Emergency Repairs
547	CL	Civil Landscape	Excessive mulching creates girdling roots and can cause tree suffocation, diminishing the lifespan of the tree. Remove excessive mulch, air-spade and root prune trees to reverse negative effects. Quantity = 11 trees needing treatment in plant bed.	$2,816	0-1 - Emergency Repairs
542	CL	Civil Landscape	Rusting on top of trash receptacle. Minor cracking in concrete. One trash receptacle should be replaced.	$1,920	0-1 - Emergency Repairs
536	CL	Civil Landscape	Rusting and peeling on top of trash receptacle. Receptacle wrap is in poor condition. Concrete is experiencing minor cracking. One receptacle should be replaced.	$1,920	0-1 - Emergency Repairs
1421	EL	Electrical Lighting	Stadium All Quad D Total All Floors - Ramp Lighting is HID architectural wall mounted fixture. Total count is 140. Proposed replacement is an LED equivalent light fixture.	$130,900	0-1 - Emergency Repairs
1420	EL	Electrical Lighting	Stadium All Quad C Total All Floors - Ramp Lighting is HID architectural wall mounted fixture. Total count is 90. Proposed replacement is an LED equivalent light fixture.	$84,150	0-1 - Emergency Repairs
1419	EL	Electrical Lighting	Stadium All Quad B Total All Floors - Ramp Lighting is HID architectural wall mounted fixture. Total count is 90. Proposed replacement is an LED equivalent light fixture.	$84,150	0-1 - Emergency Repairs
1418	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Ramp Lighting is HID architectural wall mounted fixture. Total count is 158. Proposed replacement is an LED equivalent light fixture.	$147,730	0-1 - Emergency Repairs
1405	EL	Electrical Lighting	Upper Concourse Quad C - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 12. Proposed replacement Ametrix Arrowlinear LED or equal.	$20,280	0-1 - Emergency Repairs
1404	EL	Electrical Lighting	Upper Concourse Quad B - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 12. Proposed replacement Ametrix Arrowlinear LED or equal.	$20,280	0-1 - Emergency Repairs
1403	EL	Electrical Lighting	Upper Concourse Quad A - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 14. Proposed replacement Ametrix Arrowlinear LED or equal.	$23,660	0-1 - Emergency Repairs
1401	EL	Electrical Lighting	Club Level Concourse Quad C - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 6. Proposed replacement Ametrix Arrowlinear LED or equal.	$10,140	0-1 - Emergency Repairs
1399	EL	Electrical Lighting	Club Level Concourse Quad B - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 6. Proposed replacement Ametrix Arrowlinear LED or equal.	$10,140	0-1 - Emergency Repairs
1398	EL	Electrical Lighting	Club Level Concourse Quad A - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 8. Proposed replacement Ametrix Arrowlinear LED or equal.	$13,520	0-1 - Emergency Repairs
1364	EL	Electrical Lighting	Stadium All Quadrants - Microlite lighting control system obsolete and requires complete replacement.	$1,280,000	0-1 - Emergency Repairs
1355	EL	Electrical Lighting	Upper Suites Quad C- (2) 2'x4' Light fixtures with water damage.	$646	0-1 - Emergency Repairs
1344	EL	Electrical Lighting	Club Level Quad D - Exit sign in poor condition.	$380	0-1 - Emergency Repairs
1343	EL	Electrical Lighting	Lower Suites Quad C - Exit sign does not point towards the egress path.	$127	0-1 - Emergency Repairs
1342	EL	Electrical Lighting	Lower Suite Quad A - Exit Sign points towards the suites and not towards to egress.	$127	0-1 - Emergency Repairs
1097	EL	Electrical Lighting	Main Concourse Quad A - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 16. Proposed replacement Ametrix Arrowlinear LED or equal.	$27,040	0-1 - Emergency Repairs
1093	EL	Electrical Lighting	Main Concourse Quad C - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 10. Proposed replacement Ametrix Arrowlinear LED or equal.	$16,900	0-1 - Emergency Repairs
1091	EL	Electrical Lighting	Main Concourse Quad B - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 10. Proposed replacement Ametrix Arrowlinear LED or equal.	$16,900	0-1 - Emergency Repairs
1080	EL	Electrical Lighting	Main Concourse Quad D - Lighting is T12 Fluorescent 4' lengths outside of restrooms. Total count of 14. Proposed replacement Ametrix Arrowlinear LED or equal.	$23,660	0-1 - Emergency Repairs
1449	EP	Electrical Power	Service Level and Field - The field heating boilers, pumps, and expansion tanks have reach the end of their useful service life and need to be replaced. Reconnect power for control power and pumps.	$95,101	0-1 - Emergency Repairs
975	FS	Fire Suppresion	Apparent leak in compressor. Significant condensation on bottom of tank and water can be heard dripping within tank. Recommend replacement with nitrogen generation system to slow interior pipe corrosion.	$25,600	0-1 - Emergency Repairs
307	FS	Fire Suppresion	New build out within space does not contain sprinkler protection. Sprinklers to be added to approximately 400 square feet of built out office space supplied from the existing overhead sprinkler system.	$1,536	0-1 - Emergency Repairs
306	FS	Fire Suppresion	Remove and replace 9,500 square feet of existing sprinkler system with redesigned system. New system to be designed to ordinary, group 2 requirements as defined in NFPA 13 to protect the miscellaneour storage of class III commodities.	$51,734	0-1 - Emergency Repairs
271	FS	Fire Suppresion	Storage area below seating accessed from storage room 1.52.01 contains no sprinkler protection. Existing dry sprinkler system to be extended into space to provide protection. Approximate area of unprotected space is 7,650 square feet. Space continued into Quad A	$50,000	0-1 - Emergency Repairs
261	FS	Fire Suppresion	A change in floor plan has resulted in inadequate sprinkler coverage. Add sprinkler coverage in vestibule between home team lockers and teain/tape area	$1,280	0-1 - Emergency Repairs
1448	HE	HVAC Equipment	The field heating boilers, pumps, and expansion tanks have reach the end of their useful service life and need to be replaced. Replace with new equipment equivalent to existing.	$559,603	0-1 - Emergency Repairs
1260	HE	HVAC Equipment	Building Automation system is in need of replacement. Generation of hardware is no longer supported by Siemens. System is in need of expansion and critical areas of the building are currently not being monitored.	$2,560,000	0-1 - Emergency Repairs
1209	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs
1203	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs
1201	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs
1200	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs

1193	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs
1191	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset increased technology load	$3,571	0-1 - Emergency Repairs
1181	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset technology load	$3,571	0-1 - Emergency Repairs
1165	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset new technology load	$3,571	0-1 - Emergency Repairs
1164	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset new technology load	$3,571	0-1 - Emergency Repairs
1162	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset technology load	$3,571	0-1 - Emergency Repairs
1160	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset technology cooling	$3,571	0-1 - Emergency Repairs
1152	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset new technology load	$3,571	0-1 - Emergency Repairs
1151	HE	HVAC Equipment	Install Mitsubishi mini split to offset new technology load	$3,571	0-1 - Emergency Repairs
1142	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset new technology load	$3,571	0-1 - Emergency Repairs
764	HE	Technology Low Voltage	Leak adjacent to refrigerant piping. Find leak and repair/replace insulation/pipe as required	$640	0-1 - Emergency Repairs
348	HE	HVAC Equipment	Floor heater cover is broken. Replace cove heater with new equivalent	$1,024	0-1 - Emergency Repairs
317	HE	HVAC Equipment	Fan associated to hood is not working	$2,688	0-1 - Emergency Repairs
299	HE	HVAC Equipment	Sagging ceiling panels. Repair or replace ceiling panels to eliminate sag.	$2,560	0-1 - Emergency Repairs
298	HE	HVAC Equipment	Heavy ice buildup on evaporator coil. Replace evaporator/fan unit.	$12,800	0-1 - Emergency Repairs
297	HE	HVAC Equipment	Unit not functioning properly. Blowing heat on 90 degree day. Diagnose why unit is not functioning properly and repair to original condition	$2,066	0-1 - Emergency Repairs
296	HE	HVAC Equipment	Moisture getting in. Seal up and repair wall corners as needed to stop the accumulation of moisture	$1,682	0-1 - Emergency Repairs
295	HE	HVAC Equipment	Fan belt vibration. Signs of moisture getting in. Roof sag. Replace fan unit and repair sagging ceiling	$4,626	0-1 - Emergency Repairs
293	HE	HVAC Equipment	Sagging ceiling, repair. Replace compressors and evaporator coils (3 each) Compressors: ZS15KAE Evaporator Coils: CL6A161ADAE	$26,350	0-1 - Emergency Repairs
292	HE	HVAC Equipment	Diffuser has accumulating mold. Replace diffuser	$388	0-1 - Emergency Repairs
291	HE	HVAC Equipment	Dishwasher expelling into room. Repair fan in ceiling space so it can collect steam from dishwasher	$2,633	0-1 - Emergency Repairs
289	HE	HVAC Equipment	Floor is collecting moisture due damage along the bottom of wall. Repair floor to original condition (air tight to not allow infiltration).	$10,240	0-1 - Emergency Repairs
209	HE	HVAC Equipment	Grease filters missing. Light bulb out	$523	0-1 - Emergency Repairs
183	HE	HVAC Equipment	Condensate on unit and CHW piping. Piping insulation is soggy. Investigate issue causing condensate buildup and repair. Replace wet insulation	$485	0-1 - Emergency Repairs
112	HE	HVAC Equipment	Clean coil. AHU-5C1	$800	0-1 - Emergency Repairs
106	HE	HVAC Equipment	Replace control valve as it is not sealing and water is flowing through.(CHW) AHU-3C1	$1,920	0-1 - Emergency Repairs
99	HE	HVAC Equipment	Dripping insulation puddling on the floor causing a slipping hazard. Replace and cover with plastic jacketing	$485	0-1 - Emergency Repairs
93	HE	HVAC Equipment	Punctures in insulation. Replace damaged areas with new insulation	$2,150	0-1 - Emergency Repairs
87	HE	HVAC Equipment	Chilled water pipe condensing. Black mold build up. Remove black mold insulation and cover with white plastic jacketing	$3,068	0-1 - Emergency Repairs
1258	PE	Plumbing Equipment	Hot water expansion tank has an inoperable bladder and in the need of replacement.	$4,000	0-1 - Emergency Repairs
333	PE	Plumbing Equipment	Screws and lock down tabs are missing from trench drain cover. Replace existing trench drain cover with new equivalent.	$1,455	0-1 - Emergency Repairs
121	PE	Plumbing Equipment	Water fountain stays on	$292	0-1 - Emergency Repairs
94	PE	Plumbing Equipment	Missing railing. Replace with railing identical to existing to match original conditions.	$768	0-1 - Emergency Repairs
1251	PP	Plumbing Piping/Fixtures	Bowl drains plugged due to pressure washing stadium. QTY: ~120	$7,680	0-1 - Emergency Repairs
1250	PP	Plumbing Piping/Fixtures	Heat trace has failed on exterior pipe. Replace heat trace on all exterior cold water and storm water LF = ~1500ft	$24,960	0-1 - Emergency Repairs
1249	PP	Plumbing Piping/Fixtures	Trench drain covers cannot be locked down. Replace all with new covers LF of trench drains = ~50ft Type: Zurn Z706	$8,394	0-1 - Emergency Repairs
965	PP	Plumbing Piping/Fixtures	Replace all above ground grease traps in concessions due to leaks in the bottom of the trap due to rotting of the walls . (70) 30 gallon above ground traps to be replaced.	$339,226	0-1 - Emergency Repairs
1176	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$22,144	0-1 - Emergency Repairs

1170	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$22,144	0-1 - Emergency Repairs
1032	SJ	Structural Joints	15 ft DSM joint.	$1,920	0-1 - Emergency Repairs
1021	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 200 locations Backer rod and sealant joint = 1500ft Cove joint = 1000 ft Precast joint sealant = 200 ft Sealant plugs = 400 locations Control joint sealant = 500 ft	$80,128	0-1 - Emergency Repairs
1017	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 200 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 200 ft Sealant plugs = 350 locations Control joint sealant = 200 ft	$67,072	0-1 - Emergency Repairs
1011	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 200 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 200 ft Sealant plugs = 350 locations Control joint sealant = 200 ft	$67,072	0-1 - Emergency Repairs
376	SJ	Structural Concrete/Steel	Non structural crack = 1000 ft Cove joint = 500 ft Control joint sealant = 6000 ft	$60,800	0-1 - Emergency Repairs
370	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 250 ft Guard post sealant = 400 locations Backer rod and sealant = 8000 ft Cove joint sealant 2500 ft Precast joint sealant = 200 ft Precast sealant plugs = 400 locations Control joint sealant = 300 ft	$163,968	0-1 - Emergency Repairs

364	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 250 ft Guard post sealant = 400 locations Backer rod and sealant = 8000 ft Cove joint sealant 2500 ft Precast joint sealant = 250 ft Precast sealant plugs = 450 locations Control joint sealant = 600 ft	$175,360	0-1 - Emergency Repairs
358	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 450 ft Guard post sealant = 300 locations Backer rod and sealant = 7000 ft Cove joint sealant 2000 ft Precast joint sealant = 250 ft Precast sealant plugs = 500 locations Control joint sealant = 400 ft	$161,920	0-1 - Emergency Repairs
352	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 300 ft Guard post sealant = 300 locations Backer rod and sealant = 7000 ft Cove joint sealant 2000 ft Precast joint sealant = 300 ft Precast sealant plugs = 500 locations Control joint sealant = 600 ft	$168,320	0-1 - Emergency Repairs
283	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 230 locations Backer rod and sealant = 5100 ft Cove joint = 2000 ft Precast joint sealant = 200 ft Precast sealant plugs = 200 locations Control joint sealant = 250 ft	$123,072	0-1 - Emergency Repairs
277	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 215 locations Backer rod and sealant = 5100 ft Cove joint = 2000 ft Precast joint sealant = 200 ft Precast sealant plugs = 205 locations Control joint sealant = 450 ft	$124,589	0-1 - Emergency Repairs
256	SJ	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 100 ft Guard post sealant = 10 locations Cove joint = 40 ft Control joint sealant = 1000 ft	$9,254	0-1 - Emergency Repairs
250	SJ	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 100 ft Guard post sealant = 90 locations Cove joint = 150 ft Control joint sealant = 600 ft	$8,704	0-1 - Emergency Repairs

244	SJ	Structural Concrete/Steel	Non-structural crack = 130 ft Guard post sealant = 150 locations Cove joint = 150 ft Control joint sealant = 350 ft	$8,243	0-1 - Emergency Repairs
165	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 150 ft 2) guard post sealant = 20 locations 3) cove joint = 150 ft 4) control joint = 600 ft	$7,872	0-1 - Emergency Repairs
159	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 200 ft 2) guard post sealant = 25 locations 3) cove joint = 300 ft 4) control joint = 500 ft	$9,056	0-1 - Emergency Repairs
114	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 500 ft 2) Guard post sealant = 150 locations 3) Backer rod & sealant joint = 5000 ft 4) Cove joint = 1600 ft 5) Precast joint sealant = 300 ft 6) Precast sealant plugs = 180 locations 7) Control joint sealant = 500 ft	$125,453	0-1 - Emergency Repairs
90	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 400 ft 2) Guard post sealant = 120 locations 3) Backer rod & sealant joint = 5100 ft 4) Cove joint = 2000 ft 5) Precast joint sealant = 300 ft 6) Precast sealant plugs = 150 locations 7) Control joint sealant = 500 ft	$126,848	0-1 - Emergency Repairs
324	SR	Structural Ramps/Bridges	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad D this level.	$1,536,000	0-1 - Emergency Repairs
1187	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$9,856	0-1 - Emergency Repairs
1184	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$9,856	0-1 - Emergency Repairs
1180	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$9,856	0-1 - Emergency Repairs

1173	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 10 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 10 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$15,290	0-1 - Emergency Repairs
1161	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 10 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 10 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$15,290	0-1 - Emergency Repairs
1156	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$4,736	0-1 - Emergency Repairs
1153	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$4,736	0-1 - Emergency Repairs
1029	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$4,736	0-1 - Emergency Repairs
1026	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 1 sf Touch up paint = 150 sf	$2,304	0-1 - Emergency Repairs
1020	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 15 sf Guard post concrete = 5 locations Touch up painting = 50 sf Metal gutter = 100 sf Metal sub roof= 100 sf	$12,384	0-1 - Emergency Repairs
1014	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 12sf Horizontal patch = 10 sf Guard post concrete = 3 locations Masonry repair = 50 sf Touch up painting = 100 sf Metal gutter = 200 sf Metal sub roof= 100 sf	$19,898	0-1 - Emergency Repairs

1008	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 10 sf Guard post concrete = 3 locations Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 200 sf Metal sub roof= 100 sf	$17,850	0-1 - Emergency Repairs
1005	SS	Structural Concrete/Steel	Touch up painting = 3000 sf Clean out gutter = 800 ft	$41,472	0-1 - Emergency Repairs
1002	SS	Structural Concrete/Steel	Touch up painting = 3000 sf Clean out gutter = 800 ft	$41,472	0-1 - Emergency Repairs
999	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 5 sf 2) masonry repair = 10 sf 3) Metal Gutter = 100 ft 4) Metal Sub roof = 100 sf	$7,680	0-1 - Emergency Repairs
996	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 2 sf 2) horizontal patch = 25 sf 3) Metal Gutter = 200 ft 4) Metal Sub roof = 100 sf	$14,208	0-1 - Emergency Repairs
967	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 2 sf 2) Horizontal patch = 4 sf 3) Structural Crack = 20 ft 4) Masonry repair = 5 ft 5) Metal Gutter = 200 ft 6) Metal Sub roof = 200 sf	$14,605	0-1 - Emergency Repairs
375	SS	Structural Concrete/Steel	Vertical and overhead patch = 10 sf Horizontal patch = 150 sf Masonry repair = 10 sf Grind concrete = 50 ft Touch up painting = 3000	$72,960	0-1 - Emergency Repairs
369	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 40 sf Horizontal patch = 60 sf Structural crack = 10 ft Guard post concrete = 3 locations Step replacement = 1 locations Touch up painting = 300 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$81,210	0-1 - Emergency Repairs

363	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 50 sf Structural crack = 10 ft Guard post concrete = 5 locations Step replacement = 1 locations Touch up painting = 600 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$79,456	0-1 - Emergency Repairs
357	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 20 sf Horizontal patch = 80 sf Structural crack = 10 ft Guard post concrete = 3 locations Step replacement = 1 locations Touch up painting = 300 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$77,114	0-1 - Emergency Repairs
351	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 25 sf Horizontal patch = 100 sf Structural crack = 10 ft Guard post concrete = 2 locations Step replacement = 3 locations Touch up painting = 300 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$87,718	0-1 - Emergency Repairs
282	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 25 sf Horizontal patch = 130 sf Structural crack = 20 ft Guard post concrete = 3 locations Step replacement = 2 locations Grind concrete = 10 ft Touch up paint = 500 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$95,034	0-1 - Emergency Repairs
276	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 25 sf Horizontal patch = 120 sf Structural crack = 20 ft Guard post concrete = 4 locations Step replacement = 4 locations Grind concrete = 10 ft Touch up paint = 500 sf metal gutter replacement = 400 ft metal sub-roof deck = 2500 sf	$98,381	0-1 - Emergency Repairs
255	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 6 sf Horizontal patch = 10 sf Guard post concrete = 1 locations Masonry repair = 10 sf Touch up painting = 600 sf	$12,435	0-1 - Emergency Repairs

249	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 10 sf Guard post concrete = 4 locations Masonry repair = 10 sf Touch up painting = 700 sf	$13,389	0-1 - Emergency Repairs
243	SS	Structural Concrete/Steel	Horizontal patch = 5 sf Guard post concrete = 1 location Touch up paint = 200 sf	$3,475	0-1 - Emergency Repairs
164	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 10 sf 2) horizontal patch = 10 sf 3) guard post concrete = 1 locations 4) masonry repair = 15 sf 5) touch up paint = 2000 sf	$32,211	0-1 - Emergency Repairs
158	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 10 sf 2) horizontal patch = 15 sf 3) guard post concrete = 2 locations 4) masonry repair = 30 sf 5) touch up paint = 2000 sf	$34,086	0-1 - Emergency Repairs
113	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 40 sf 2) horizontal patch = 40sf 3) structural crack = 50ft 4) guard post concrete = 10 locations 5) step replacement = 3 locations 6) touch up painting = 1000 sf 7) metal gutter replacement = 400 ft 8) metal sub-roof deck = 2500 sf	$96,960	0-1 - Emergency Repairs
89	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 40 sf 2) horizontal patch = 60 sf 3) structural crack = 40 ft 4) guard post concrete = 8 locations 5) step replacement = 3 locations 6) touch up painting = 1000 sf 7) metal gutter replacement = 400 ft 8) metal sub-roof deck = 2500 sf	$99,226	0-1 - Emergency Repairs
1392	TB	Technology Broadcast Systems	Replace RTS Communications System. RTS communications frame and Intercom system should be considered for replacement in 2019, but no later than 2020	$153,600	0-1 - Emergency Repairs
1391	TB	Technology Broadcast Systems	Replace Truck Interface Panels, Replace Worn Connectors only.	$38,400	0-1 - Emergency Repairs
1390	TB	Technology Broadcast Systems	Replace interface boxes. Interface boxes for Talent and Camera locations should be replaced.	$76,800	0-1 - Emergency Repairs

858	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 2 4”c No UPS for network electronics No cooling Adjacent to hot water tank Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 2 4”c Provide UPS for active network electronics Provide cooling	$8,448	0-1 - Emergency Repairs
856	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 2 4”c No UPS for network electronics No cooling Adjacent to hot water tank Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 2 4”c Provide UPS for active network electronics Provide cooling	$8,448	0-1 - Emergency Repairs
853	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 6 4”c Fs missing or deteriorating for 24”CT new bricks Room is warm, HVAC does not appear to be on Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 6 4”c Provide firestopping for 24”CT, new bricks Repair HVAC unit	$6,784	0-1 - Emergency Repairs
851	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 2 4”c No UPS for network electronics No cooling Adjacent to hot water tank Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 2 4”c Provide UPS for active network electronics Provide cooling	$8,448	0-1 - Emergency Repairs
849	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 2 4”c No UPS for network electronics No cooling Adjacent to hot water tank Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 2 4”c Provide UPS for active network electronics Provide cooling	$8,448	0-1 - Emergency Repairs

847	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 11 4”c Fs missing or deteriorating for 12”CT new bricks No UPS for network electronics Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 11 4”c Provide firestopping for 12”CT, new bricks Provide UPS for active network electronics	$13,184	0-1 - Emergency Repairs
842	TL	Technology Low Voltage	No TGB Fs missing or deteriorating for all conduits, 18 4”c Fs missing or deteriorating for 24”CT new bricks No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 18 4”c Provide firestopping for 24”CT, new bricks Provide cooling	$11,136	0-1 - Emergency Repairs
840	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 10 4”c Provide fs for 12”CT new bricks No UPS for network electronics Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 10 4”c Provide firestopping for 12”CT, new bricks Provide UPS for active network electronics	$12,800	0-1 - Emergency Repairs
766	TL	Technology Low Voltage	Bond rack and cable runway to TGB Provide firestopping for all conduits, 4 4”cProvide UPS for network electronics	$8,576	0-1 - Emergency Repairs
762	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 10 4”c Provide fs for 12”CT new bricks No UPS for network electronics Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 10 4”c Provide firestopping for 12”CT, new bricks Provide UPS for active network electronics	$12,800	0-1 - Emergency Repairs
758	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 16 4”c Provide fs for 18”CT new bricks No UPS for network electronics Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 16 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics	$15,744	0-1 - Emergency Repairs

756	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 4 4”c Provide fs for 18”CT new bricks Lights are not working Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 4 4”c Provide firestopping for 18”CT, new bricks Repair lighting within room	$7,296	0-1 - Emergency Repairs
754	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 20 4”c Provide fs for 18”CT new bricks No UPS for network electronics No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 20 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics Provide cooling	$17,280	0-1 - Emergency Repairs
752	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 4 4”c No UPS for network electronics No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 4 4”c Provide UPS for active network electronics Provide cooling	$9,216	0-1 - Emergency Repairs
750	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 30 4”c Provide fs for 18”CT new bricks No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 30 4”c Provide firestopping for 18”CT, new bricks Provide cooling	$16,000	0-1 - Emergency Repairs
748	TL	Technology Low Voltage	No TGB No UPS for network electronics No cooling Lights not working Provide TGB Bond all racks and cable runways to TGB Provide UPS for active network electronics Provide cooling Repair lighting	$8,960	0-1 - Emergency Repairs
746	TL	Technology Low Voltage	Network rack and cable runway not bonded to TGB Provide fs for all conduits, 6 4”c Bond all racks and cable runways to TGB Provide firestopping for all conduits, 6 4”c	$4,224	0-1 - Emergency Repairs

744	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 16 4”c Provide fs for 18”CT new bricks No UPS for network electronics DX4D1 Cooling not working, blowing hot air, hot Volume control for club not working Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 16 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics Provide new volume control Provide cooling	$16,384	0-1 - Emergency Repairs
653	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 19 4”c Provide fs for 18”CT new bricks No UPS for network electronics No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 19 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics Provide cooling	$16,896	0-1 - Emergency Repairs
647	TL	Technology Low Voltage	No TGB Fs all conduits 7 4”c No cooling, hot No UPS for network electronics Light switch or lighting does not work Power does not appear to be on emergency Door is sticking closed, very difficult to enter Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 7 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics Provide cooling Repair power and lighting Repair door/frame	$14,848	0-1 - Emergency Repairs
645	TL	Technology Low Voltage	Add TGB Fs conduits, 18 4”c No cooling, hot Add ups for network electronics Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 18 4”c Provide UPS for active network electronics Provide cooling	$14,592	0-1 - Emergency Repairs

643	TL	Technology Low Voltage	No TGB Power does not appear to be on emergency Fs 12” CT with new bricks Fs conduits, 4 4”c. No cooling in room Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 4 4”c Provide firestopping for 12”CT, new bricks Provide cooling	$5,376	0-1 - Emergency Repairs
641	TL	Technology Low Voltage	Fs all CT with new bricks Fs all conduits, 11 4”c No ups for network electronics Provide TGB No cooling in room Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 11 4”c Provide firestopping for 18”CT, new bricks Provide UPS for active network electronics Provide cooling	$13,824	0-1 - Emergency Repairs
639	TL	Technology Low Voltage	This is a storage room now Fs 9” CT passing through room Provide firestopping for 9”CT, new bricks	$1,280	0-1 - Emergency Repairs
638	TL	Technology Low Voltage	No grounding Provide TGB Bond all racks and cable runways to TGB	$2,560	0-1 - Emergency Repairs
637	TL	Technology Low Voltage	1 wall mount rack 12 SM to Mdf WiFi 24pp, 24 cat 6a 24pp, 19 cat 6a No TGB Provide TGB Bond all racks and cable runways to TGB	$2,560	0-1 - Emergency Repairs
636	TL	Technology Low Voltage	Add TGB Fs all conduits, including (6) 6”c, (25) 4”c Fs 24” CT with new bricks Copper plumbing piping is leaking in room Room is not conditioned Shared space with large sprinkler piping, valves and test drain Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 25 4”c and 6 6"c Provide firestopping for 24”CT, new bricks Provide UPS for active network electronics Provide cooling Repair leak	$21,504	0-1 - Emergency Repairs

633	TL	Technology Low Voltage	No grounding 1 4”c down not fs No cooling, hot Power does not appear to be emergency Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 1 4”c Provide cooling	$2,944	0-1 - Emergency Repairs
632	TL	Technology Low Voltage	Called Wess Storage, 5/3 Gate, Club 46 Between 145 women’s rr and 146 concession C’Town Eats 2 wall mount racks No TGB Rack 1 12 SM to MDF WiFi 12 SM to MDF WiFi 48pp, 48 cat 6a 48pp, 37 cat 6a Rack 2 12 SM for cams, unlabeled 24pp, 18 cat 6 UPS Provide TGB Bond all racks and cable runways to TGB Provide UPS for active network electronics	$7,680	0-1 - Emergency Repairs
631	TL	Technology Low Voltage	Fs all conduits, including 18 4”C Provide TGB Fs 12” CT with new bricks Provide cooling Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 18 4”c Provide firestopping for 12”CT, new bricks Provide UPS for active network electronics Provide cooling	$15,872	0-1 - Emergency Repairs
613	TL	Technology Low Voltage	Multiple conduits are missing fS, 20 4”C Grounding not per standards, TBB but no TGB No hvac in room. Very hot Remove all abandoned cables Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 20 4”c Provide cooling Remove all abandoned cabling	$11,520	0-1 - Emergency Repairs
611	TL	Technology Low Voltage	No grounding Shared space with first aid Provide TGB Bond all racks and cable runways to TGB	$2,560	0-1 - Emergency Repairs

608	TL	Technology Low Voltage	Appears to be no fs for all cable entries Fs bricks laying in ct, not installed TBB with no TGB, not properly grounded VZW with no apparent grounding Rack does not appear properly grounded Room is warm with no hvac Abandoned cabling left in room Some cable supported with bridle rings No drip pans for plumbing above Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 16 4”c Provide firestopping for 18”CT, new bricks Support UTP cabling with J-hooks - approx 30' Provide cooling	$11,008	0-1 - Emergency Repairs
382	TL	Technology Low Voltage	MM FIBER 62.5 NEW A/c Backup Unit exhausts into hallway Limited ground original fiber racks are bonded to tray Provide TGB Bond all racks and cable runways to TGB Replace all 62.5 micron MM (multimode) fiber optic cabling with new laser-optimized 50 micron fiber optic cabling. Assume: 1000' length of armored, indoor/outdoor cabling.	$17,587	0-1 - Emergency Repairs
520	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Projector not functioning Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$7,680	0-1 - Emergency Repairs

Total: **$10,924,951**

Task #	Stamp	Title	Description	Cost	Time Period
1451	AG	Architectural General	Lunch room locker replacement: Provide new, standard, 1 Tier, metal lockers. Size: 15" wide x 18" deep x 72" height. Locks: built-in with recessed pocket handle, automatic type, (locker can be locked when open, then closed without unlocking). Assume quantity of 50.	$28,000	2-5 - Material Repairs
1387	AG	Architectural General	Perimeter entrance gates (main concourse). Gate steel surfaces rusting. Gate hinges damaged/rusting. Cane bolts/drop rods damaged/missing. Refinish/repaint gate surfaces. (PR) Gates are 8FT. wide x 10FT. 6 PR total. Replace hinges. Hinges are round body barrel weld-on type, (PR) 3. Replace cane bolts/drop rods, (PR) 1.	$25,200	2-5 - Material Repairs
1386	AG	Architectural General	Perimeter entrance gates (main concourse). Gate steel surfaces rusting. Gate hinges damaged/rusting. Cane bolts/drop rods damaged/missing. Refinish/repaint gate surfaces. (PR) Gates are 8FT. wide x 10FT. 8 PR total. Replace hinges. Hinges are round body barrel weld-on type, (PR) 3. Replace cane bolts/drop rods, (PR) 1.	$33,600	2-5 - Material Repairs
1385	AG	Architectural General	Perimeter entrance gates (main concourse). Gate steel surfaces rusting. Gate hinges damaged/rusting. Cane bolts/drop rods damaged/missing. Refinish/repaint gate surfaces. (PR) Gates are 8FT. wide x 10FT. 8 PR total. Replace hinges. Hinges are round body barrel weld-on type, (PR) 3. Replace cane bolts/drop rods, (PR) 1.	$33,600	2-5 - Material Repairs
1374	AG	Architectural General	Visible water and physical damage to finish ceiling. Assume water damage is from upper concourse deck (open sealant joints and crack repair per structural). Replace ceiling and grid. 15,000 S.F	$94,500	2-5 - Material Repairs
1372	AG	Architectural General	Visible water and physical damage to finish ceiling. Assume water damage is from upper concourse deck (open sealant joints and crack repair per structural). Replace ceiling and grid. 10,000 S.F	$63,000	2-5 - Material Repairs
1367	AG	Architectural General	Hollow metal door and frames. Door, frame, and hardware are in good overall condition. Some are mis-aligned and do not close/latch correctly. 20% (of total) of doors and/or hardware need to be adjusted (assume 30 total doors).	$10,080	2-5 - Material Repairs
1210	AG	Architectural General	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of these doors are misaligned and need adjustment. Door adjustment needed on 30% of total within 2-5 year time period. 30 total doors at 3FT. wide by 7FT. high.	$10,080	2-5 - Material Repairs
1190	AG	Architectural General	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of these doors are misaligned and need adjustment. Door adjustment needed on 30% of total within 2-5 year time period. 30 total doors at 3FT. wide by 7FT. high.	$10,080	2-5 - Material Repairs

1169	AG	Architectural General	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of these doors are misaligned and need adjustment. Door adjustment needed on 30% of total within 2-5 year time period. 30 total doors at 3FT. wide by 7FT. high.	$10,080	2-5 - Material Repairs
837	AG	Architectural General	Ceiling tile warping and missing. Ceiling tile and grid. Quantity of 6-2x4 tiles need replaced.	$302	2-5 - Material Repairs
825	AG	Architectural General	Located in Suite 231, the ceiling grid appears to be rusting along the column and wall. An estimated 80 SF of grid will need replaced.	$504	2-5 - Material Repairs
822	AG	Architectural General	Located in Suite 235, rusting steel on end cap suite. An estimated 50 SF of surface to be repainted. At the exterior seating, the seat appears to be worn and ripping. Replace 2 seats for specified suite only.	$1,120	2-5 - Material Repairs
816	AG	Architectural General	Located at Suite 240, the restroom has one 36" and one 42" rusted ADA grab bar.	$280	2-5 - Material Repairs
814	AG	Architectural General	Located in Suite 243, the ceiling grid is rusting and there are several water damaged tiles. An estimated 24 SF of ceiling grid needs replaced and a quantity of 6-2x2 tiles need replaced.	$185	2-5 - Material Repairs
813	AG	Architectural General	Located in Suite 244, the restroom ceiling grid is rusting. An estimated 50 SF of grid needs replaced.	$385	2-5 - Material Repairs
812	AG	Architectural General	Located at Suite 250, detailing at expansion joint. Drywall damage and baseboard damage. An estimated 40 LF of expansion joint repair is required. Refer to Quad B, Suite 228 for good joint detail in restroom.	$4,200	2-5 - Material Repairs
808	AG	Architectural General	Suite 268 and 269: Door and lock to both suites require adjustment.	$672	2-5 - Material Repairs
805	AG	Architectural General	Located in suite 280, ceiling grid is rusting in specified suite. An estimated 220 SF of ceiling grid is required with 2x4 ceiling tiles. The exterior seating within this suite, there is one seat that is torn at the top. Seat requires repair.	$1,596	2-5 - Material Repairs
804	AG	Architectural General	Rusting steel on end cap suite. An estimated 50 SF of surface to be repainted.	$700	2-5 - Material Repairs

793	AG	Architectural General	Hollow metal door and frames. Door, frame, and hardware are in good overall condition. Some hardware damage. 20% (of total) of doors and/or hardware need to be adjusted (assume 30 total doors).	$10,080	2-5 - Material Repairs
784	AG	Architectural General	Missing and/or damaged tile in Women and Men Restrooms. 1,000 S.F. (includes wall, base, and floor tile locations).	$22,400	2-5 - Material Repairs
776	AG	Architectural General	Hollow metal door and frames. Door, frame, and hardware are in good overall condition. Some are mis-aligned and do not close/latch correctly. 20% (of total) of doors and/or hardware need to be adjusted (assume 30 total doors).	$10,080	2-5 - Material Repairs
742	AG	Architectural General	House keeping area ceiling. Original/damaged finished ceiling. Recommend replacement within 2-5 year time frame. 2,000 S.F. (this room). Assume water damage from upper concourse deck (open sealant joints and crack repair per structural).	$12,600	2-5 - Material Repairs
739	AG	Architectural General	Rusted door threshold at restroom vestibule. Replace threshold. 3ft. L.F.	$420	2-5 - Material Repairs
737	AG	Architectural General	Damaged ceiling grid in suite 418. Door threshold missing. Repair damaged ceiling grid. Add door threshold.	$482	2-5 - Material Repairs
733	AG	Architectural General	Warped/aging ceiling tiles. Room approximately. Replace ceiling and grid. 800 S.F.	$5,040	2-5 - Material Repairs
727	AG	Architectural General	Visible water and physical damage to finish ceiling. Assume water damage is from upper concourse deck (open sealant joints and crack repair per structural). Replace ceiling and grid. 4,000 S.F. (Writing and Press Room)	$25,200	2-5 - Material Repairs
694	AG	Architectural General	Suite 449, rusting ceiling grid, damaged soffit, and water damage on wall (adjacent to suite 450). 2,500 S.F. of ceiling replacement. 200 S.F. of drywall repair. Assume water damage from upper concourse deck (open sealant joints and crack repair per structural).	$20,650	2-5 - Material Repairs
688	AG	Architectural General	Floor finish damaged/wearing within Concession. Area estimated to be replaced is 1200 SF.	$15,960	2-5 - Material Repairs
685	AG	Architectural General	Doors, door hardware and door thresholds need replaced. In the Main Concourse Level of Quad C, there are an estimated 45 single doors and 15 double doors. Within this level and quad, 1 single/double doors need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors, replacing 25% of the doors at one time.	$284,400	2-5 - Material Repairs

674	AG	Architectural General	Unfinished joint. Needs sealant. Cut back joint fillet. 30 LF of sealant required.	$294	2-5 - Material Repairs
673	AG	Architectural General	Recaulk open joints in masonry. An estimated 3 LF of caulk is required.	$59	2-5 - Material Repairs
665	AG	Architectural General	Damage on ceiling tiles in Trainers Lockers. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Quantity of 1-2x4 tiles need replaced.	$50	2-5 - Material Repairs
664	AG	Architectural General	Located in the Meeting Room/Player Lounge, there is potential water damage for leaking ceiling above. Area of estimated ceiling repair is 12 SF and are of estimated wall refinish is 24 SF.	$302	2-5 - Material Repairs
663	AG	Architectural General	No wall base in 6x8 room. Roughly 35 LF of base will be needed.	$196	2-5 - Material Repairs
602	AG	Architectural General	Rubber base loose at bottom of ramp. 8 LF of base to be installed along ramp and wrap around corner to meet existing base shown.	$90	2-5 - Material Repairs
601	AG	Architectural General	Door, door hardware and door threshold need replaced due to adjustment issues. In the Service level of Quad D, there are an estimated 50 single doors and 30 double doors. Within this level and quad, 6 single/double doors need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors, replacing 25% of the doors at one time.	$410,800	2-5 - Material Repairs
598	AG	Architectural General	Recalking perimeter of mop sink. 6'-0" LF, but not limited to, of caulking will be needed.	$59	2-5 - Material Repairs
225	AG	Architectural General	Stair #3: Access from Main Concourse (Level 1) to Level 4 with an authorized only door access in between Level 3 & 4. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint and railings are chipping in multiple locations. Risers and railings require paint. Underside of stair landings are rusted in multiple locations on several levels. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 2,100 SF. total for refinishing and repainting of miscellaneous steel within stairwell. Quantity of 4 doors. Assume each door is 3ft. wide (pair) by 7ft. high.	$61,620	2-5 - Material Repairs
212	AG	Architectural General	Door, door hardware and door threshold need replaced due to wear and tear. In the Service level of Quad C, there are an estimated 30 single doors and 15 double doors. Within this level and quad, 4 single/double doors need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors, replacing 25% of the doors at one time.	$225,150	2-5 - Material Repairs

157	AG	Architectural General	Door, door hardware and door threshold need replace. In the Service level of Quad A, there are an estimated 50 single doors and 15 double doors. Within this level and quad, 1 single/double door need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors, replacing 25% of the doors at one time.	$304,150	2-5 - Material Repairs
156	AG	Architectural General	Louvers outside of the Emergency Generator Room required sealant replacement and repair along side of the louver. Estimated repair is 6 LF of sealant.	$118	2-5 - Material Repairs
152	AG	Architectural General	Within the Food Storage and Cooler/Freezer area of the Service Level, the drywall is damaged in two separate areas, totaling to an estimated 36 SF of repair.	$504	2-5 - Material Repairs
145	AG	Architectural General	Within the Visitor Shower room, grout is missing in the draining area of the showers. Area of estimated grout replacement is 12 SF.	$202	2-5 - Material Repairs
142	AG	Architectural General	Insulation is torn and damaged. Area estimated to be repaired is 50 SF.	$560	2-5 - Material Repairs
141	AG	Architectural General	Ceiling tiles are warped and bowing in restroom. Area of room is estimated to be 100 SF.	$630	2-5 - Material Repairs
140	AG	Architectural General	Ceiling tiles are warped and bowing in restroom. Area of room is estimated to be 100 SF.	$630	2-5 - Material Repairs
135	AG	Architectural General	Water damage at masonry wall. Refinish, seal, and repaint. Estimated 4 LF of repair required.	$112	2-5 - Material Repairs
80	AG	Architectural General	Expansion joint cover replacement. Assume rubber coated heavy duty hinge system. 30 L.F.	$3,570	2-5 - Material Repairs
78	AG	Architectural General	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of these doors are misaligned and need adjustment. Door adjustment needed on 30% of total within 2-5 year time period. 30 total doors at 3FT. wide by 7FT. high.	$10,080	2-5 - Material Repairs
75	AG	Architectural General	Clean underside of skylight areas. 1,000 S.F.	$2,100	2-5 - Material Repairs

68	AG	Architectural General	Corrugated Metal Corner Guards damaged on the Main Concourse Level, typical. Area estimated for replacement is 400 SF in each Quad on the Main Concourse and Level 3 only.	$22,400	2-5 - Material Repairs
65	AG	Architectural General	Service elevator door is rusting. It is recommended to replace the entire door.	$7,000	2-5 - Material Repairs
64	AG	Architectural General	Base stone cracking, caulk and seal. An estimated 6 LF of caulk and sealant is required.	$118	2-5 - Material Repairs
63	AG	Architectural General	Base stone cracking, caulk and seal. An estimated 3 LF of caulk and sealant is required.	$101	2-5 - Material Repairs
62	AG	Architectural General	Caulk and seal at base. An estimated 5 LF of caulk and sealant is required.	$112	2-5 - Material Repairs
60	AG	Architectural General	Flashing on louver damaged. An estimated 25 LF of flashing is required at location.	$1,050	2-5 - Material Repairs
59	AG	Architectural General	Base stone cracking, caulk and seal. An estimated 10 LF of caulk and sealant is required.	$134	2-5 - Material Repairs
58	AG	Architectural General	Located at the exterior of the transformer area, the louver needs cleaned and re-caulked along the perimeter. Area of estimated cleaning is 8 SF and estimated linear feet of caulk required is 10 LF.	$154	2-5 - Material Repairs
55	AG	Architectural General	Doors, door hardware and door thresholds need replaced. In the Main Concourse Level of Quad A, there are an estimated 40 single doors and 20 double doors. Within this level and quad, 6 single/double doors need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors, replacing 25% of the doors at one time.	$316,000	2-5 - Material Repairs
54	AG	Architectural General	Corrugated Metal Corner Guards damaged on the Main Concourse Level, typical. Area estimated for replacement is 400 SF in each Quad on the Main Concourse and Level 3 only.	$22,400	2-5 - Material Repairs
41	AG	Architectural General	Door hardware replacement. Repaint hollow metal door and frame. (PR) 3ft. wide x 7ft. height.	$1,400	2-5 - Material Repairs

36	AG	Architectural General	Door hardware replacement. Repaint hollow metal door and frame. One door 3ft wide x 7'-0" height.	$770	2-5 - Material Repairs
1388	AT	Architectural Vertical Transportation	Elevator maintenance/upgrades for all stadium elevators: 1) Provide dedicated circuit for elevator car A/C: $1,000.00 per elevator. Quantity of 11 elevators. $11,000.00 total cost. 2) Provide A/C for each elevator machine room: $10,000.00 per machine room. Quantity of 9 machine rooms. $90,000.00 total cost. 3) Update machine room lighting from T-12 fluorescent to LED: $1,000.00 per machine room. Quantity of 9 machine rooms. $9,000.00 total cost. 4) Install new cab interior panels to 9 passenger elevators: $50,000.00 per elevator. Quantity of 9 elevators. $450,000.00 total cost. 5) Install full Renova door operating package for Elevators #1, 2, 7, 8, 10, 12, 13, and 14: $54,500.00 per elevator. Quantity of 9 elevators. $490,500.00 total cost. 6) Replace freight door astragals: $16,000.00 per elevator. Quantity of 2 elevators. $32,000.00 total cost.	$1,515,500	2-5 - Material Repairs
1370	AT	Architectural Vertical Transportation	Refer to Structural notes (SR) in regards to ramp replacement. Quad B has 1 set of ramps that do not lead down to service level. An estimated 200 SF of louvers required cleaning and maintenance. An estimated 100 SF of screening replacement. An estimated 2,000 LF of railings require refinishing. Refer to Quad A Architectural notes (AT) for similar photos.	$39,900	2-5 - Material Repairs
1368	AT	Architectural Vertical Transportation	Refer to Structural notes (SR) in regards to ramp replacement. Quad A has 2 sets of ramps with only one set leading down to service level. An estimated 500 SF of louvers required cleaning and maintenance. An estimated 200 SF of screening replacement. An estimated 5,200 LF of railings require refinishing.	$97,300	2-5 - Material Repairs
1365	AT	Architectural Vertical Transportation	Stair #9: Access from Service Level to Level 6. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint is chipping in multiple locations. Risers require paint. Underside of stair landings are rusted in multiple locations on several levels. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 3,900 SF. total for refinishing and repainting of miscellaneous steel within stairwell. Quantity of 5 doors. Assume each door is 3ft. wide (pair) by 7ft. high.	$97,170	2-5 - Material Repairs
228	AT	Architectural Vertical Transportation	Stari #7: Access from Service Level to Level 3 with no access to Level 2. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint and railings are chipping in multiple locations. Risers and railings require paint. Underside of stair landings are rusted in multiple locations on several levels. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 2,400 SF. total for refinishing and repainting of miscellaneous steel within stairwell. Quantity of 3 doors. Each door is 3ft. wide (pair) by 7ft. high.	$59,250	2-5 - Material Repairs
224	AT	Architectural Vertical Transportation	Stair #8: Access from Service Level to Level 3, with no access to Level 2. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint and railings are chipping in multiple locations. Risers and railings require paint. Refinish and repaint. Underside of stair landings are rusted in multiple locations on several levels. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 1,800 SF. total for refinishing and repainting of miscellaneous steel within stairwell. Quantity of 2 doors. Assume each door is 3ft. wide (pair) by 7ft. high.	$42,660	2-5 - Material Repairs

223	AT	Architectural Vertical Transportation	Stair #1: Access from Service Level to Level 5. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint and railings are chipping in multiple locations. Risers,railing, and underside of landings require paint. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 2,800 SF. total for refinishing and repainting of miscellaneous steel within the stairwell. Quantity of 5 doors. Each door is 3ft. wide (pair) by 7ft. high.	$79,790	2-5 - Material Repairs
222	AT	Architectural Vertical Transportation	Stair #2: Access from Service Level to Level 6. There is no access to Level 5. Door, door frame, and door thresholds need replaced due to rusting on all levels. Over the course of a 6-10 year period, it is recommended to replace all double doors leading to stairs. Located within the stair well, stair riser paint and railings are chipping in multiple locations. Risers and railings require paint. Underside of stair landings are rusted in multiple locations on several levels. Roof joists and decking are rusting above on multiple levels within the staircase. Refinish and repaint. Area of estimated work is 2,300 SF. total for refinishing and repainting of miscellaneous steel within stairwell. Quantity of 5 doors. Each door is 3ft. wide (pair) by 7ft. high.	$71,890	2-5 - Material Repairs
134	AT	Architectural Vertical Transportation	Refer to Structural notes (SR) in regards to ramp replacement. Quad A has 1 set of ramps that lead down to service level. An estimated 200 SF of louvers required cleaning and maintenance. An estimated 100 SF of screening replacement. An estimated 2,800 LF of railings require refinishing. Refer to Quad A Architectural notes (AT) for similar photos.	$51,100	2-5 - Material Repairs
133	AT	Architectural Vertical Transportation	Refer to Structural notes (SR) in regards to ramp replacement. Quad D has 2 sets of ramps with only one set leading down to service level. An estimated 200 SF of louvers required cleaning and maintenance. An estimated 200 SF of screening replacement. An estimated 3,000 LF of railings require refinishing. Refer to Quad A Architectural notes (AT) for similar photos. Note: Circulation ramp in Quad D has been maintained from Level 3 and up. New concrete curb and railings installed above the 300 Level.	$64,400	2-5 - Material Repairs
126	AT	Architectural Vertical Transportation	Rusted railing in specified location 20 LF.	$280	2-5 - Material Repairs
125	AT	Architectural Vertical Transportation	Clean louvers. 2 quantity of an estimated area of 50 SF.	$350	2-5 - Material Repairs
66	AT	Architectural Vertical Transportation	Located at the Southwest elevator, the overhead door at the top and bottom of the escalator are rusting. A total of 2 overhead doors would required being replaced in a 2-5 year period. Paint steel and refinish enclosure. Power wash glazing and roof structure.	$25,900	2-5 - Material Repairs
57	AT	Architectural General	Located at the Northeast elevator, the overhead door at the top and bottom of the escalator are rusting. A total of 2 overhead doors would required being replaced in a 2-5 year period. Paint steel and refinish enclosure. Power wash glazing and roof structure.	$25,900	2-5 - Material Repairs
346	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 500 LF Structural cracks = 100 LF Guardrail post sealant = 50 each Guardrail post concrete = 50 each Backer rod / sealant = 0 LF Grind concrete = 100 LF Control joint = 0 LF 4" Sidewalk replacement = 250 SF 8" Pavement replacement = 200 SF 6" Curb replacement = 100 LF	$62,160	2-5 - Material Repairs
343	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 400 LF Structural cracks = 50 LF Guardrail post sealant = 30 each Guardrail post concrete = 30 each Backer rod / sealant = 0 LF Grind concrete = 100 LF Control joint = 0 LF 4" Sidewalk replacement = 200 SF 8" Pavement replacement = 100 SF 6" Curb replacement = 100 LF	$41,650	2-5 - Material Repairs

339	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 300 LF Structural cracks = 150 LF Guardrail post sealant = 0 each Guardrail post concrete = 0 each Backer rod / sealant = 0 LF Grind concrete = 200 LF Control joint = 0 LF 4" Sidewalk replacement = 400 SF 8" Pavement replacement = 200 SF 6" Curb replacement = 200 LF	$54,040	2-5 - Material Repairs
336	CC	Civil Concrete	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 400 LF Structural cracks = 150 LF Guardrail post sealant = 50 each Guardrail post concrete = 30 each Backer rod / sealant = 0 LF Grind concrete = 100 LF Control joint = 0 LF 4" Sidewalk replacement = 400 SF 8" Pavement replacement = 1000 SF 6" Curb replacement = 100 LF	$73,150	2-5 - Material Repairs
956	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace all remaining pop-up spray sprinklers including flexible pipe (42 total). Replace all remaining T-Bird rotor sprinklers with Series 5000 rotor sprinklers (14 total).	$8,232	2-5 - Material Repairs
955	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace all pop-up spray sprinklers including flexible pipe (48 total). Replace all remaining T-Bird rotor sprinklers with Series 5000 rotor sprinklers (20 total)	$10,080	2-5 - Material Repairs
954	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace all pop-up spray sprinklers including flexible pipe (67 total). Replace all remaining T-Bird rotor sprinklers with Series 5000 rotor sprinklers (35 total)	$15,260	2-5 - Material Repairs
953	CL	Civil Landscape	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace all pop-up spray sprinklers (40 total) including flexible pipe. Replace all remaining T-Bird rotor sprinklers with Series 5000 rotor sprinklers (8 total)	$6,944	2-5 - Material Repairs
941	CL	Civil Landscape	Irrigation zone needs to be replaced when landscaping is redone (2,000 SF)	$4,424	2-5 - Material Repairs
923	CL	Civil Landscape	Irrigation zone is currently inactive and needs to be replaced when landscaping is redone (4,000 SF)	$8,848	2-5 - Material Repairs
904	CL	Civil Landscape	Irrigation: Replace manual 4" Valve	$560	2-5 - Material Repairs
899	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove existing groundcover. (Quantity is approx. 550 ft^2).	$1,155	2-5 - Material Repairs
898	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 1 planter on sidewalk.	$3,500	2-5 - Material Repairs

897	CL	Civil Landscape	Irrigation zone is currently inactive and needs to be replaced when landscaping is redone (4,000 SF)	$8,848	2-5 - Material Repairs
629	CL	Civil Landscape	Shrubs (Little Princess Spirea) are "leggy" and in below-average condition. Replace plantings in plant bed with new plantings or an interesting hardscape feature. (Quantity is approx. 1400 ft²).	$24,500	2-5 - Material Repairs
628	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 9 planters at bridge entrance.	$31,500	2-5 - Material Repairs
620	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove existing groundcover. (Quantity is approx. 361 ft²).	$505	2-5 - Material Repairs
619	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove existing groundcover. (Quantity is approx. 361 ft²).	$505	2-5 - Material Repairs
594	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 23 planters at Quad B Main Plaza.	$80,500	2-5 - Material Repairs
590	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Replace with new plantings or an interesting hardscape feature. (Quantity is approx. 802 ft²).	$5,614	2-5 - Material Repairs
589	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 2 planters at top of stairs.	$7,000	2-5 - Material Repairs
587	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 1 planter at bottom of ramp.	$3,500	2-5 - Material Repairs
584	CL	Civil Landscape	Excessive tree (crabapple) lean. Remove and replace with new 3" caliper Crabapple (Malus) tree.	$980	2-5 - Material Repairs
583	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with topsoil, turf/lawn seed, and straw. (Quantity is approx. 7505 ft²).	$26,268	2-5 - Material Repairs

580	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with topsoil, turf/lawn seed, and straw. (Quantity is approx. 3600 ft²).	$12,600	2-5 - Material Repairs
577	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 4 planters at stairway entrance.	$14,000	2-5 - Material Repairs
571	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with either new shrubs or with topsoil, turf/lawn seed, and straw. (Quantity is approx. 900 ft²).	$3,150	2-5 - Material Repairs
570	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with either new shrubs or new topsoil, turf/lawn seed, and straw. (Quantity is approx. 925 ft²).	$3,238	2-5 - Material Repairs
566	CL	Civil Landscape	Hemlock trees are in poor condition. Remove and replace with new 6' (B&B) Hemlock (Tsuga) trees. Quantity = 4 trees.	$3,920	2-5 - Material Repairs
564	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 2 planters at ramp entrance.	$7,000	2-5 - Material Repairs
563	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with topsoil, turf/lawn seed, and straw. (Quantity is approx. 2300 ft²).	$8,050	2-5 - Material Repairs
560	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 2 planters on at stairway.	$7,000	2-5 - Material Repairs
553	CL	Civil Landscape	Concrete planters are experiencing minor cracking and deficiencies. Additionally, dense plant material creates security and maintenance issues. Consider either replacing planters or eliminating the planters and replacing with crash-rated bollards. Quantity = 28 planters on Quad C Main Plaza.	$98,000	2-5 - Material Repairs
551	CL	Civil Landscape	Crabapple trees are in below average to poor condition. Remove and replace with 10 new 3" caliper Crabapple (Malus) trees. Quantity = 10 trees.	$9,800	2-5 - Material Repairs
550	CL	Civil Landscape	Shrubs (Little Princess Spirea) are "leggy" and in below-average condition. Replace with new plantings or an interesting hardscape feature. (Quantity is approx. 1925 ft²).	$33,688	2-5 - Material Repairs

544	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove existing groundcover. (Quantity is approx. 361 ft²).	$1,265	2-5 - Material Repairs
539	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove existing groundcover. (Quantity is approx. 361 ft²).	$1,264	2-5 - Material Repairs
535	CL	Civil Landscape	Security/safety concern created due to dense groundcover. Remove groundcover and mulch and replace with topsoil, turf/lawn seed, and straw. (Quantity is approx. 2850 ft²).	$9,975	2-5 - Material Repairs
534	CL	Civil Landscape	Excessive tree lean. Remove and replace tree with a 4" caliper tree.	$1,120	2-5 - Material Repairs
533	CL	Civil Landscape	Excessive tree (black pine) lean. Replace with 6' tall black pine (Pinus nigra).	$980	2-5 - Material Repairs
1446	EL	Electrical Lighting	Service Level Quad D - 2’ x 4’ Fluorescent Lighting. Total Square footage of Quad D is 9327 square feet. Provide equivalent LED lighting fixture.	$51,538	2-5 - Material Repairs
1445	EL	Electrical Lighting	Service Level Quad C - 2’ x 4’ Fluorescent Lighting. Total Square footage of Quad C is 6284 square feet. Provide equivalent LED lighting fixture.	$34,750	2-5 - Material Repairs
1444	EL	Electrical Lighting	Upper Suites Quad D - Track lighting in elevator lobby are Par 38 heads. Total head count is 24. Provide LED equivalent heads.	$4,032	2-5 - Material Repairs

1443	EL	Electrical Lighting	Upper Suites Quad B - Track lighting in elevator lobby are Par 38 heads. Total head count is 16. Provide LED equivalent heads.	$2,688	2-5 - Material Repairs
1442	EL	Electrical Lighting	Upper Suites Quad A - Track lighting in elevator lobby are Par 38 heads. Total head count is 24. Provide LED equivalent heads.	$4,032	2-5 - Material Repairs
1441	EL	Electrical Lighting	Lower Suites Quad D - Track lighting in elevator lobby are Par 38 heads. Total head count is 24. Provide LED equivalent heads.	$4,032	2-5 - Material Repairs
1440	EL	Electrical Lighting	Lower Suites Quad C - Track lighting in elevator lobby are Par 38 heads. Total head count is 32. Provide LED equivalent heads.	$5,376	2-5 - Material Repairs
1439	EL	Electrical Lighting	Lower Suites Quad B - Track lighting in elevator lobby are Par 38 heads. Total head count is 32. Provide LED equivalent heads.	$5,376	2-5 - Material Repairs
1437	EL	Electrical Lighting	Lower Suites Quad A - Track lighting in elevator lobby are Par 38 heads. Total head count is 24. Provide LED equivalent heads.	$4,032	2-5 - Material Repairs

1436	EL	Electrical Lighting	Upper Suites Quad D - Lighting in suite corridors are 2’ x 2’ fluorescent. Total count is 46. Provide LED equivalent light fixture.	$15,198	2-5 - Material Repairs
1435	EL	Electrical Lighting	Upper Suites Quad B - Lighting in suite corridors are 2’ x 2’ fluorescent. Total count is 38. Provide LED equivalent light fixture.	$12,555	2-5 - Material Repairs
1434	EL	Electrical Lighting	Upper Suites Quad A - Lighting in suite corridors are 2’ x 2’ fluorescent. Total count is 47. Provide LED equivalent light fixture.	$15,529	2-5 - Material Repairs
1433	EL	Electrical Lighting	Lower Suites Quad D - Lighting in suite corridors are 2’ x 2’. Fluorescent. Total count is 46. Provide LED equivalent light fixture.	$15,198	2-5 - Material Repairs
1432	EL	Electrical Lighting	Lower Suites Quad C - Lighting in suite corridors are 2’ x 2’. Total count is 25. Provide LED equivalent light fixture.	$8,260	2-5 - Material Repairs
1431	EL	Electrical Lighting	Lower Suites Quad B - Lighting in suite corridors are 2’ x 2’ fluorescent fixtures. Total count is 25. Provide LED equivalent light fixture.	$8,260	2-5 - Material Repairs

1430	EL	Electrical Lighting	Lower Suites Quad A - Lighting in suite corridors are 2’ x 2’ fluorescent. Total count is 54. Provide LED equivalent light fixture.	$17,842	2-5 - Material Repairs
1429	EL	Electrical Lighting	Upper Suites Quad D - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 23. Provide LED equivalent lamps.	$4,025	2-5 - Material Repairs
1428	EL	Electrical Lighting	Upper Suites Quad B - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 25. Provide LED equivalent lamps.	$4,375	2-5 - Material Repairs
1427	EL	Electrical Lighting	Upper Suites Quad A - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 22. Provide LED equivalent lamps.	$3,850	2-5 - Material Repairs
1426	EL	Electrical Lighting	Lower Suites Quad D - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 31. Provide LED equivalent lamps.	$5,425	2-5 - Material Repairs
1425	EL	Electrical Lighting	Lower Suites Quad C - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 28. Provide LED equivalent lamps.	$4,900	2-5 - Material Repairs

1424	EL	Electrical Lighting	Lower Suites Quad B - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 28. Provide LED equivalent lamps.	$4,900	2-5 - Material Repairs
1423	EL	Electrical Lighting	Lower Suites Quad A - Downlights immediately outside suite doors and elevator lobbies are compact fluorescent down lights. Total count is 29. Provide LED equivalent lamps.	$5,075	2-5 - Material Repairs
1417	EL	Electrical Lighting	Stadium All Quad D Total All Floors - Concession Lighting is 2'x4' Fluorescent. Total count is 140. Proposed replacement is Eaton #24GR-LD5 4200 Lumen.	$49,420	2-5 - Material Repairs
1416	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Concession Lighting is 2'x4' Fluorescent. Total count is 112. Proposed replacement is Eaton #24GR-LD5 4200 Lumen.	$39,536	2-5 - Material Repairs
1415	EL	Electrical Lighting	Stadium All Quad B Total All Floors - Concession Lighting is 2'x4' Fluorescent. Total count is 111. Proposed replacement is Eaton #24GR-LD5 4200 Lumen.	$39,183	2-5 - Material Repairs
1414	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Concession Lighting is 2'x4' Fluorescent. Total count is 131. Proposed replacement is Eaton #24GR-LD5 4200 Lumen.	$46,243	2-5 - Material Repairs

1413	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Public Toilet Lighting is 4’ Fluorescent wall bracket. Total count is 281. Proposed replacement is Eaton #FCCLED 3500 48” wall bracket.	$334,390	2-5 - Material Repairs
1412	EL	Electrical Lighting	Stadium All Quad C Total All Floors - Public Toilet Lighting is 4’ Fluorescent wall bracket. Total count is 186. Proposed replacement is Eaton #FCCLED 3500 48” wall bracket.	$221,340	2-5 - Material Repairs
1411	EL	Electrical Lighting	Stadium All Quad B Total All Floors - Public Toilet Lighting is 4’ Fluorescent wall bracket. Total count is 186. Proposed replacement is Eaton #FCCLED 3500 48” wall bracket.	$221,340	2-5 - Material Repairs
1410	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Public Toilet Lighting is 4’ Fluorescent wall bracket. Total count is 261. Proposed replacement is Eaton #FCCLED 3500 48” wall bracket.	$310,590	2-5 - Material Repairs
1409	EL	Electrical Lighting	Stadium All Quad D Total All Floors - Stairwell Lighting is 4’ Fluorescent wall bracket. Total count is 53. Proposed replacement is Eaton #BCLED 3600 48” wall bracket.	$24,804	2-5 - Material Repairs
1408	EL	Electrical Lighting	Stadium All Quad C Total All Floors - Stairwell Lighting is 4’ Fluorescent wall bracket. Total count is 48. Proposed replacement is Eaton #BCLED 3600 48” wall bracket.	$22,464	2-5 - Material Repairs

1407	EL	Electrical Lighting	Stadium All Quad B Total All Floors - Stairwell Lighting is 4’ Fluorescent wall bracket. Total count is 48. Proposed replacement is Eaton #BCLED 3600 48” wall bracket.	$22,464	2-5 - Material Repairs
1406	EL	Electrical Lighting	Upper Concourse Quad D - Lighting is T12 Fluorescent 4’ lengths outside of restrooms. Total count of 9. Proposed replacement Ametrix Arrowlinear LED or equal.	$16,632	2-5 - Material Repairs
1402	EL	Electrical Lighting	Club Level Concourse Quad D - Lighting is T12 Fluorescent 4’ lengths outside of restrooms. Total count of 6. Proposed replacement Ametrix Arrowlinear LED or equal.	$11,088	2-5 - Material Repairs
1383	EL	Electrical Lighting	Club Level Quad D - Lighting in club area is compact fluorescent. Total club area in Quadrant D is 14597 sq ft. Provide LED equivalent lighting fixture.	$80,721	2-5 - Material Repairs
1382	EL	Electrical Lighting	Club Level Quad C - Lighting in club area is compact fluorescent. Total club area in Quadrant C is 18162 sq ft. Provide LED equivalent lighting fixture.	$100,436	2-5 - Material Repairs
1381	EL	Electrical Lighting	Club Level Quad B - Lighting in club area is compact fluorescent. Total club area in Quadrant B is 17583 sq ft. Provide LED equivalent lighting fixture.	$97,234	2-5 - Material Repairs

1358	EL	Electrical Lighting	Stadium All Quadrants - Exterior HID lighting on windscreens shall be completely removed.	$8,400	2-5 - Material Repairs
1329	EL	Electrical Lighting	Service Level Quad A - 2' x 4' Fluorescent Lighting. Total Square footage of Quad A is 10614 square feet. Provide equivalent LED lighting fixture.	$58,695	2-5 - Material Repairs
1318	EL	Electrical Lighting	Upper Suites Quad D - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 4150 sq ft. Provide LED equivalent fixture.	$22,950	2-5 - Material Repairs
1239	EL	Electrical Lighting	Club Level Quad A - Lighting in club area is compact fluorescent. Total club area in Quadrant A is 20641 sq ft. Provide LED equivalent lighting fixture.	$114,145	2-5 - Material Repairs
1198	EL	Electrical Lighting	Lighting in vomitories are HID.		2-5 - Material Repairs
1192	EL	Electrical Lighting	Stadium All Quad A Total All Floors - Stairwell Lighting is 4' Fluorescent wall bracket. Total count is 53. Proposed replacement is Eaton #BCLED 3600 48" wall bracket.	$24,804	2-5 - Material Repairs

1148	EL	Electrical Lighting	Upper Suites Quad C Press Area - Service, support, administrative areas for press area have compact fluorescent lighting. Total area is 1835 sq ft. Provide LED equivalent fixture.	$12,184	2-5 - Material Repairs
1147	EL	Electrical Lighting	Upper Suites Quad C Press Area - Service, support, administrative areas for press area have 2'x4' fluorescent lighting. Total area is 17362 sq ft. Provide LED equivalent fixture.	$115,284	2-5 - Material Repairs
1144	EL	Electrical Lighting	Upper Suites Quad B - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 3246 sq ft. Provide LED equivalent fixture.	$21,553	2-5 - Material Repairs
1139	EL	Electrical Lighting	Upper Suites Quad A - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 4199 sq ft. Provide LED equivalent fixture.	$27,881	2-5 - Material Repairs
1129	EL	Electrical Lighting	Lower Suites Quad D - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 11525 sq ft. Provide equivalent light fixture.	$63,733	2-5 - Material Repairs
1125	EL	Electrical Lighting	Lower Suites Quad C - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 3886 sq ft. Provide equivalent light fixture.	$21,490	2-5 - Material Repairs

1122	EL	Electrical Lighting	Lower Suites Quad B - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 4524 sq ft. Provide equivalent light fixture.	$25,018	2-5 - Material Repairs
1119	EL	Electrical Lighting	Lower Suites Quad A - Service, support, administrative areas across from suites have 2'x4' fluorescent lighting. Total area is 10340 sq ft. Provide equivalent light fixture.	$57,180	2-5 - Material Repairs
1095	EL	Electrical Lighting	Main Concourse A - 8 HID lighting mounted in hallway.	$8,000	2-5 - Material Repairs
1089	EL	Electrical Lighting	Main Concourse Quad D - 8 HID mounted in hallway. Provide LED equivalent light fixtures.	$8,000	2-5 - Material Repairs
1356	EP	Electrical Power	Upper Suite Quad D - Electrical room water damage.	$3,328	2-5 - Material Repairs
1376	FA	Fire Alarm	Complete building wide fire alarm replacement including all control panels, notification devices, and wiring encompassing approximately 1.64 million square feet. The new system shall, upon activation, initiate a signal using an emergency voice/alarm communications system and be captioned in accordance with the 2017 Ohio Building Code. Refer to the Condition Assessment Report for further details.	$3,968,000	2-5 - Material Repairs

1380	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 17,600square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$110,880	2-5 - Material Repairs
1379	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 1,865 square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$11,750	2-5 - Material Repairs
1378	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 650square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$4,095	2-5 - Material Repairs
1377	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 1,760 square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$11,088	2-5 - Material Repairs
979	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 610 square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$3,843	2-5 - Material Repairs
978	FS	Fire Suppresion	Excessive corrosion apparent on sprinkler branch lines and fittings. Replace approximately 15,000 square feet of light hazard sprinkler branch lines and paint to prevent future corrosion	$94,500	2-5 - Material Repairs

268	FS	Fire Suppresion	Fire pump drive shaft seal is excessively leaking and drive shaft is visibly corroded. Pump appears to be in good working order. It is recommended that the fire pump be disassembled and rebuilt to extend and continued yearly maintenance performed to extend its life expectancy	$16,380	2-5 - Material Repairs
267	FS	Fire Suppresion	Excessive corrosion on incoming fire line, couplings, and hangers. Approximately 40 linear feet of piping, fittings, and hangers should be replaced to avoid an unscheduled emergency shutdown of the fire suppression system due to a pipe failure.	$21,862	2-5 - Material Repairs
1256	HE	HVAC Equipment	Replace existing Hastings make-up air unit due to being at the end of its life expectancy. Refer to picture for existing model information. 10000CFM	$29,772	2-5 - Material Repairs
1255	HE	HVAC Equipment	Replace electric unit heaters due to being at the end of their expectancy. Typical failures at this age are heating coils and contactors. Unit Heater Quantities: 7.5kW = 20 10kW = 120 20kW = 15 3kW = 10 Cabinet Unit Heater Quantities 8kW = 20 10 kW = 85 20 kW = 15 5 kW = 55	$1,145,221	2-5 - Material Repairs
1254	HE	HVAC Equipment	Replace existing concession grease exhaust fans due to being at the end of life expectancy. Motors and bearings are typical points of failure at this age. Quantity of 70 fans to be replaced.	$367,500	2-5 - Material Repairs
1245	HE	HVAC Equipment	Radiant heaters have reached the end of their useful life. Heating output is decreased over the years. Chromalox SKR-5253 2500W (5' long) - QTY: 54 SKR-6303 3000W (6' long) - QTY: 246 SKR-7363 3500W (7' long) - 28	$381,729	2-5 - Material Repairs
1133	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split to offset new technology loads	$3,906	2-5 - Material Repairs

1127	HE	HVAC Equipment	Install 1.5 ton Mitsubishi mini split	$3,906	2-5 - Material Repairs
1049	HE	HVAC Equipment	Room has no cooling. Install 1 ton mitsubishi mini split	$2,772	2-5 - Material Repairs
1039	HE	HVAC Equipment	Room has no cooling. Install 1.5 ton Mitsubishi Mini Split	$3,906	2-5 - Material Repairs
349	HE	HVAC Equipment	VAV past useful life	$2,205	2-5 - Material Repairs
332	HE	HVAC Equipment	30x36 grille needs to be replaced. Remove damaged grille and replace with new equivalent.	$186	2-5 - Material Repairs
316	HE	HVAC Equipment	Hood vibration. Evaluate issue and repair as needed to eliminate.	$2,260	2-5 - Material Repairs
315	HE	HVAC Equipment	Ceiling deteriorating . Repair ceiling. Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$10,056	2-5 - Material Repairs
314	HE	HVAC Equipment	Ceiling is sagging. Repair ceiling. Replace condenser and evaporator Condenser: CFO100M4S-E Evaporator: CL6A094ADAEL	$10,056	2-5 - Material Repairs
301	HE	HVAC Equipment	Damaged insulation. Repair existing and cover with white plastic jacketing	$1,017	2-5 - Material Repairs
300	HE	HVAC Equipment	Steamer expelling moisture into space and effectign the operation of the freezers. Provide exhaust hood and fan ducted to outdoors.	$21,000	2-5 - Material Repairs

290	HE	HVAC Equipment	Hood width does not accommodate smoker. Recommend replacing with hood large enough to accomodate all appliances	$50,400	2-5 - Material Repairs
242	HE	HVAC Equipment	Fan coil unit vibration issues. Isolate issue causing vibration and repair as needed.	$2,800	2-5 - Material Repairs
240	HE	HVAC Equipment	Flex duct to diffuser is falling off	$168	2-5 - Material Repairs
239	HE	HVAC Equipment	Suite 478. Storm pipe insulation	$330	2-5 - Material Repairs
238	HE	HVAC Equipment	OA insulation falling off. 484	$700	2-5 - Material Repairs
237	HE	HVAC Equipment	Supply air insulation falling down. 487	$700	2-5 - Material Repairs
208	HE	HVAC Equipment	Hood seems imoperable. Identify if fan motor has failed and repair/replace	$3,890	2-5 - Material Repairs
204	HE	HVAC Equipment	EUH rusted out	$4,085	2-5 - Material Repairs
202	HE	HVAC Equipment	Cabinet heaters rusted. Unit near end of life. Replace with new equivalnet to existing	$4,599	2-5 - Material Repairs
184	HE	HVAC Equipment	Condensate on unit and CHW piping	$530	2-5 - Material Repairs

182	HE	HVAC Equipment	Condensate on underside of unit	$530	2-5 - Material Repairs
181	HE	HVAC Equipment	Heaters not operating at full capacity . Replace 4 units with Chromalox SKR-6303 each at 6' long.	$4,698	2-5 - Material Repairs
180	HE	HVAC Equipment	OA Duct insulation ripped	$700	2-5 - Material Repairs
179	HE	HVAC Equipment	Both fan coils condensing on drain pain. SAN insulation falling off. Identify issue causing condensate build up and repair. Replace insulation that has fallen off.	$920	2-5 - Material Repairs
178	HE	HVAC Equipment	Wet CHW pipe. Replace insulation	$530	2-5 - Material Repairs
177	HE	HVAC Equipment	Ripped insulation. Replace insulation with new.	$530	2-5 - Material Repairs
176	HE	HVAC Equipment	Wet unit and CHW piping. Identify issue causing condensate buildup and repair. Replace insulation on wet piping	$530	2-5 - Material Repairs
175	HE	HVAC Equipment	Condensate under unit and on CHW. Identify issue that is causing condensate building and repair	$530	2-5 - Material Repairs
174	HE	HVAC Equipment	Wet CHW piping. Replace insulation	$530	2-5 - Material Repairs
173	HE	HVAC Equipment	Drain valve leaking. Insulation wet. Replace drain valve and replace insulation	$530	2-5 - Material Repairs
172	HE	HVAC Equipment	Wet on underside of fan coil. Evaluate issue and repair as required	$530	2-5 - Material Repairs

171	HE	HVAC Equipment	Wet fan coil unit. Storm pipe insulation falling off. Evaluate issue causing condensate accumulation and repair as required. Replace storm piping insulation	$698	2-5 - Material Repairs
170	HE	HVAC Equipment	Condensate on underside of fan coil unit. Rusty diffusers and t-bar supports. Deck is sweating. Evaluate issue causing condensate accumulation and repair. Replace rusted ceiling supports. Replace rusty diffusers with new equivalent	$1,870	2-5 - Material Repairs
111	HE	HVAC Equipment	Insulation failing. Repair insulation and cover with plastic jacket, per general note on cover sheet.	$1,050	2-5 - Material Repairs
103	HE	HVAC Equipment	Insulation is frayed and failing. Replace and cover with plastic jacketing.~25ft	$1,140	2-5 - Material Repairs
101	HE	HVAC Equipment	Ripped insulation. Replace and cover with plastic jacket. ~20ft	$912	2-5 - Material Repairs
100	HE	HVAC Equipment	Room is really warm. >95F. Install 1.5 ton mitsubishi mini split	$2,772	2-5 - Material Repairs
98	HE	HVAC Equipment	Ripped up floor insulation. AHU-3A1. Replace with metal liner	$3,660	2-5 - Material Repairs
97	HE	HVAC Equipment	Floor insulation ripped up. AHU-3D3. Replace insulation with metal liner.	$3,660	2-5 - Material Repairs
92	HE	HVAC Equipment	AHU-1C2 floor insulation is damage and ineffective. Remove existing and replace with metal liner.	$3,660	2-5 - Material Repairs
91	HE	HVAC Equipment	Failing insulation. AHU-1C3. Metal liner recommended. Broken door handle	$4,080	2-5 - Material Repairs

88	HE	HVAC Equipment	Cover missing. Replace insulation and cover with plastic jacketing.	$202	2-5 - Material Repairs
85	HE	HVAC Equipment	Insulation needs to be repaired and replaced	$289	2-5 - Material Repairs
1246	HG	HVAC VAV/AHU/BAS	VAV boxes with electric heaters to be replaced due to end of life expectancy. - 230 boxes to be replaced.	$515,200	2-5 - Material Repairs
1048	HG	HVAC VAV/AHU/BAS	Room has no cooling. Install 1.5 ton Mitsubishi mini split	$3,906	2-5 - Material Repairs
1040	HG	HVAC VAV/AHU/BAS	Room has no cooling. Install 1.5 ton Mitsubishi Mini Split	$3,906	2-5 - Material Repairs
1257	PE	Plumbing Equipment	Replace existing 3000 gallon hot water storage tank as the tank is at the end of its useful life. A failure of the tank would leave the Stadium without hot water.	$292	2-5 - Material Repairs
1038	PE	Plumbing Equipment	Screws and lock down tabs are missing from trench drain cover. Replace existing trench drain cover with new equivalent LF = 15ft Model: Zurn Z706	$2,754	2-5 - Material Repairs
331	PE	Plumbing Equipment	Screws and lock down tabs are missing from trench drain cover. Replace existing trench drain cover with new equivalent.	$1,592	2-5 - Material Repairs
200	PE	Plumbing Equipment	Insulation failing on heat traced pipe. Replace insulation and cover with plastic jacketing ~100ft	$5,557	2-5 - Material Repairs

193	PE	Plumbing Equipment	Paper jacket missing. Replace with PVC jacket. 10 LF, 4" diameter	$482	2-5 - Material Repairs
192	PE	Plumbing Equipment	Jacket on storm piping is missing. Replace with PVC Jacket. 20 LF, 4" diameter	$663	2-5 - Material Repairs
189	PE	Plumbing Equipment	Paper jacket worn away. Replace with new PVC Jacket. 25LF, 4" diameter	$754	2-5 - Material Repairs
187	PE	Plumbing Equipment	Paper jacket missing. Mold growing. Repair insulation and cover with plastic jacket. ~25ft	$1,817	2-5 - Material Repairs
120	PE	Plumbing Equipment	No floor drain near water heater. Install drain pan	$415	2-5 - Material Repairs
110	PE	Plumbing Equipment	No floor drain near water heater	$507	2-5 - Material Repairs
102	PE	Plumbing Equipment	Storm insulation failing. Replace and cover with plastic jacketing. ~60ft	$2,733	2-5 - Material Repairs
95	PE	Plumbing Equipment	Cleanout cover is missing. Replace with new.	$84	2-5 - Material Repairs
86	PE	Plumbing Equipment	Button on water fountain is jammed. Repair mechanism	$323	2-5 - Material Repairs
964	PP	Plumbing Piping/Fixtures	Place plastic jacketing on all exterior piping that is ripped or dirty on the concourse level. Total of 400 feet of 4" pipe to be covered.	$18,245	2-5 - Material Repairs

1177	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$24,220	2-5 - Material Repairs
1171	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$24,220	2-5 - Material Repairs
1024	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 200 locations Backer rod and sealant joint = 3000 ft Cove joint = 1000 ft Precast joint sealant = 500 ft Sealant plugs = 100 locations Control joint sealant = 500 ft	$133,280	2-5 - Material Repairs
1018	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 100 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 300 ft Sealant plugs = 100 locations Control joint sealant = 200 ft	$70,560	2-5 - Material Repairs
1012	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 100 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 300 ft Sealant plugs = 100 locations Control joint sealant = 200 ft	$70,560	2-5 - Material Repairs

379	SJ	Structural Concrete/Steel	Non structural crack = 500 ft Cove joint = 200 ft Control joint sealant = 2000 ft	$24,360	2-5 - Material Repairs
372	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 50 locations Backer rod and sealant = 100 ft Cove joint sealant 200 ft Precast joint sealant = 600 ft Precast sealant plugs = 100 locations Control joint sealant = 500 ft	$109,410	2-5 - Material Repairs
367	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 50 locations Backer rod and sealant = 100 ft Cove joint sealant 200 ft Precast joint sealant = 600 ft Precast sealant plugs = 100 locations Control joint sealant = 500 ft	$109,410	2-5 - Material Repairs
361	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 50 locations Backer rod and sealant = 100 ft Cove joint sealant 200 ft Precast joint sealant = 600 ft Precast sealant plugs = 100 locations Control joint sealant = 400 ft	$108,570	2-5 - Material Repairs
355	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 50 locations Backer rod and sealant = 100 ft Cove joint sealant 200 ft Precast joint sealant = 600 ft Precast sealant plugs = 100 locations Control joint sealant = 500 ft	$109,410	2-5 - Material Repairs
285	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 100 locations Backer rod and sealant = 500 ft Cove joint = 1000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 200 locations Control joint sealant = 200 ft	$193,340	2-5 - Material Repairs

280	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 100 locations Backer rod and sealant = 500 ft Cove joint = 1000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 200 locations Control joint sealant = 200 ft	$193,340	2-5 - Material Repairs
269	SJ	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 500 ft Guard post sealant = 5 locations Cove joint = 200 ft Control joint sealant = 2000 ft	$24,465	2-5 - Material Repairs
253	SJ	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 500 ft Guard post sealant = 20 locations Cove joint = 200 ft Control joint sealant = 2000 ft	$24,780	2-5 - Material Repairs
247	SJ	Structural Concrete/Steel	Non-structural crack = 400ft Guard post sealant = 30 locations Cove joint = 300 ft Control joint sealant = 500 ft	$12,250	2-5 - Material Repairs
167	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 500 ft 2) guard post sealant = 5 locations 3) cove joint = 600 ft 4) control joint = 1000 ft	$19,985	2-5 - Material Repairs
161	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 500 ft 2) guard post sealant = 5 locations 3) cove joint = 600 ft 4) control joint = 1000 ft	$19,985	2-5 - Material Repairs

117	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 4000 ft 2) Guard post sealant = 50 locations 3) Backer rod & sealant joint = 500 ft 4) Cove joint = 1000 ft 5) Precast joint sealant = 1000 ft 6) Precast sealant plugs = 150 locations 7) Control joint sealant = 200 ft	$211,750	2-5 - Material Repairs
105	SJ	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 4000 ft 2) Guard post sealant = 50 locations 3) Backer rod & sealant joint = 500 ft 4) Cove joint = 1000 ft 5) Precast joint sealant = 1000 ft 6) Precast sealant plugs = 150 locations 7) Control joint sealant = 200 ft	$211,750	2-5 - Material Repairs
327	SR	Structural Ramps/Bridges	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad A this level.	$840,000	2-5 - Material Repairs
323	SR	Structural Ramps/Bridges	replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad A this level.	$1,680,000	2-5 - Material Repairs
322	SR	Structural Ramps/Bridges	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad D this level.	$1,680,000	2-5 - Material Repairs
319	SR	Structural Ramps/Bridges	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad A this level.	$1,680,000	2-5 - Material Repairs
318	SR	Structural Ramps/Bridges	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad this level.	$420,000	2-5 - Material Repairs
201	SR	Structural Ramps/Bridges	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (4) ramps in Quad D.	$1,680,000	2-5 - Material Repairs

197	SR	Structural Ramps/Bridges	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (4) ramps in Quad A.	$1,680,000	2-5 - Material Repairs
186	SR	Structural Ramps/Bridges	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (2) ramps in Quad A this level.	$840,000	2-5 - Material Repairs
1188	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$10,780	2-5 - Material Repairs
1185	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$10,780	2-5 - Material Repairs
1182	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$10,780	2-5 - Material Repairs
1174	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 20 sf Horizontal patch = 20 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 20 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$23,583	2-5 - Material Repairs

1167	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 20 sf Horizontal patch = 20 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 20 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$23,583	2-5 - Material Repairs
1157	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$5,180	2-5 - Material Repairs
1154	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$5,180	2-5 - Material Repairs
1030	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 10 sf Touch up paint = 150 sf	$8,260	2-5 - Material Repairs
1027	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Touch up paint = 150 sf	$6,300	2-5 - Material Repairs
1023	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 10 locations Touch up painting = 50 sf Metal gutter = 100 sf Metal sub roof= 100 sf	$24,990	2-5 - Material Repairs

1022	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 5 locations Touch up painting = 50 sf Metal gutter = 100 sf Metal sub roof= 100 sf	$24,885	2-5 - Material Repairs
1015	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 5 locations Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100 sf	$27,685	2-5 - Material Repairs
1009	SS	Structural Joints	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 5 locations Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100 sf	$27,685	2-5 - Material Repairs
1006	SS	Structural Concrete/Steel	Touch up painting = 3000 sf Clean out gutter = 800 ft	$45,360	2-5 - Material Repairs
1003	SS	Structural Concrete/Steel	Touch up painting = 3000 sf Clean out gutter = 800 ft	$45,360	2-5 - Material Repairs
1000	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 10 sf 2) masonry repair = 10 sf 3) Metal Gutter = 50 ft 4) Metal Sub roof = 100 sf	$8,400	2-5 - Material Repairs

997	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 5 sf 2) horizontal patch = 20 sf 3) Metal Gutter = 50 ft 4) Metal Sub roof = 100 sf	$9,520	2-5 - Material Repairs
968	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching =10 sf 2) Horizontal patch = 10 sf 3) Structural Crack = 10 ft 4) Masonry repair = 20 ft 5) Metal Gutter = 100 ft 6) Metal Sub roof = 100 sf	$14,560	2-5 - Material Repairs
377	SS	Structural Concrete/Steel	Vertical and overhead patch = 20 sf Horizontal patch = 200 sf Masonry repair = 10 sf Grind concrete = 50 ft Touch up painting = 3000 sf	$93,800	2-5 - Material Repairs
371	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 200 sf Horizontal patch = 250 sf Structural crack = 20 ft Guard post concrete = 10 locations Step replacement = 2 locations Touch up painting = 600 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000 sf	$200,410	2-5 - Material Repairs
365	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 150 sf Horizontal patch = 200 sf Structural crack = 20 ft Guard post concrete = 10 locations Step replacement = 2 locations Touch up painting = 600 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000 sf	$169,610	2-5 - Material Repairs

359	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 100 sf Horizontal patch = 200 sf Structural crack = 20 ft Guard post concrete = 10 locations Step replacement = 2 locations Touch up painting = 600 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000 sf	$148,610	2-5 - Material Repairs
353	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 100 sf Horizontal patch = 200 sf Structural crack = 20 ft Guard post concrete = 10 locations Step replacement = 3 locations Touch up painting = 600 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000 sf	$151,410	2-5 - Material Repairs
284	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 100 sf Horizontal patch = 200 sf Structural crack = 100 ft Guard post concrete = 30 locations Step replacement = 6 locations Grind concrete = 20ft Touch up paint = 1000 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000sf	$178,430	2-5 - Material Repairs
278	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 100 sf Horizontal patch = 200 sf Structural crack = 100 ft Guard post concrete = 30 locations Step replacement = 6 locations Grind concrete = 20ft Touch up paint = 1000 sf metal gutter replacement = 200 ft metal sub-roof deck = 3000 sf	$178,430	2-5 - Material Repairs
257	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 40 sf Guard post concrete = 2 locations Masonry repair = 60 sf Touch up painting = 3000 sf	$58,282	2-5 - Material Repairs

251	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 40 sf Guard post concrete = 2 locations Masonry repair = 60 sf Touch up painting = 3000 sf	$58,282	2-5 - Material Repairs
245	SS	Structural Concrete/Steel	Horizontal patch = 30 sf Guard post concrete = 5 location Touch up paint = 500 sf	$12,985	2-5 - Material Repairs
166	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 40 sf 2) horizontal patch = 20 sf 3) guard post concrete = 3 locations 4) masonry repair = 100 sf 5) touch up paint = 3000 sf	$69,783	2-5 - Material Repairs
160	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 40 sf 2) horizontal patch = 30 sf 3) guard post concrete = 4 locations 4) masonry repair = 100 sf 5) touch up paint = 3000 sf	$71,764	2-5 - Material Repairs
116	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 160 sf 2) horizontal patch = 160 sf 3) structural crack = 100 ft 4) guard post concrete = 30 locations 5) step replacement = 6 locations 6) grind concrete = 20 ft 7) touch up painting = 1000 sf 8) metal gutter replacement = 200 ft 9) metal sub-roof deck = 3000 sf	$195,790	2-5 - Material Repairs

104	SS	Structural Concrete/Steel	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 160sf 2) horizontal patch = 240 sf 3) structural crack = 100 ft 4) guard post concrete = 30 locations 5) step replacement = 6 locations 6) touch up painting = 1000 sf 7) grind concrete = 20 ft 8) metal gutter replacement = 200 ft 9) metal sub-roof deck = 3000 sf	$211,470	2-5 - Material Repairs
1397	TB	Technology Broadcast Systems	Replace Midas Audio Board. Consider Digital models now available by 2023.	$350,000	2-5 - Material Repairs
1396	TB	Technology Broadcast Systems	Replace Harris Platinum Multi format Router. Start looking at IP routing no later than 2022.	$560,000	2-5 - Material Repairs
1395	TB	Technology Broadcast Systems	Replace Control Room Graphics System. The Chyron Graphics system should be considered for replacement no later than 2021.	$350,000	2-5 - Material Repairs
1394	TB	Technology Broadcast Systems	Replace Network Gear (Control Room Hub and Fiber Run). Control room Network Hub is currently a 10gig. Pipe for all operations. Each control station is allowed 1gig. of bandwidth from the router. Extra capacity if allowed by the Network core should be considered. As well as expanded NIC sizes in the various PC's There is currently 1 core fiber totaling 6 fiber lines. A separate core run from a different stadium direction should also be considered for a redundant back-up and future expansion.	$39,200	2-5 - Material Repairs
1393	TB	Technology Broadcast Systems	Replace Frame Syncs (total 6). Frame syncs. Most of the frame syncs were replaced in the 2016 rebuild. There are still 6 that were installed in 2010 that should be considered for replacement in 2019.	$21,000	2-5 - Material Repairs

846	TL	Technology Low Voltage	1 VZW rack 1 ATT rack 3 audio racks Rack 1, floor 12 SM to Mdf WiFi 48pp, 40 cat 5, 4 cat 5e 48pp, 30 cat 5e 48pp, 4 cat 5, 24 cat 6 48pp, 0 cables 48pp, 31 cat 6a Rack 2, wall 12 SM for cams 24pp, 17 cat 6 UPS Wall field 24 MM 62.5 to Mdf 150 pr voice backbone, 72 voice grade station cables on wall mounted patch panels CATV 2 unlabeled BT amps	$104,720	2-5 - Material Repairs
841	TL	Technology Low Voltage	1 VZW rack 1 ATT rack Rack 1, floor 12 SM to Mdf WiFi 48pp, 48 cat 5 48pp, 48 cat 5 48pp, 48 cat 5 48pp, 48 cat 5 UPS UPS on floor behind rack Rack 2, floor 48pp, 48 cat 5e 48pp, 31 cat 6 48pp, 15 cat 5 48pp, 36 cat 6a NFL active electronics and fiber cabling Rack 3, wall 12 SM for cams 24pp, 24 cat 6	$413,823	2-5 - Material Repairs

839	TL	Technology Low Voltage	1 VZW rack 1 ATT rack 4 audio racks Rack 1 12 SM for cams 24pp, 24 cat 6 24pp, 11 cat 6 UPS Rack 2 12 SM to Mdf WiFi 48pp, 44 cat 5 48pp, 17 cat 5e 48pp, 32 cat 5e 48pp, 0 cables 48pp, 40 cat 6a Wall field 24 MM 62.5 to Mdf 4D 150 pr voice backbone, 96 voice grade station cables on wall mounted patch panels CATV unlabeled BT amp	$125,860	2-5 - Material Repairs
765	TL	Technology Low Voltage	Rack 112 SM to Mdf WiFi 24 SM to Telco 12 MM 62.5 to Telco 48pp, 5 cat 6, 4 cat 6a 24pp, 5 cat 6Wall field 50 pr voice backbone, no station cables Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling.Assume:1000' length of armored, indoor/outdoor cabling.	$5,194	2-5 - Material Repairs
763	TL	Technology Low Voltage	1.5 VZW racks 2 Browns radio racks 1 audio rack Rack 112 SM to Mdf WiFi 24 SM to Telco12 MM 62.5 to Telco 48pp, 26 cat 624pp, 10 cat 648pp, 25 cat 6, 18 cat 6a UPSRack 2.512 SM for cams 24pp, 11 cat 6Wall field 100 pr voice backbone, no station cables CATV BIDA-100A-30Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling.Assume:1000' length of armored, indoor/outdoor cabling.	$5,194	2-5 - Material Repairs

759	TL	Technology Low Voltage	1 VZW rack 1 ATT rack 3 audio racks Rack 1 12 SM to Mdf WiFi 48pp, 48 cat 5 48pp, 17 cat 5e 48pp, 38 cat 5e 48pp, 0 cables 48pp, 36 cat 6a Rack 2 12 SM for cams 24pp, 20 cat 6 24pp, 15 cat 6 UPS Abandoned wall mount audio cabinet Wall field 24 MM 62.5 to Mdf	$152,919	2-5 - Material Repairs
757	TL	Technology Low Voltage	1 VZW rack 1 audio rack Rack 1, floor 12 SM to Mdf WiFi 48pp, 6 cat 5, 9 cat 5e 48pp, 10 cat 5e, 12 cat 6 48pp, 10 cat 6 48pp, 7 cat 6 24pp, 10 cat 6a Rack 2, wall mount 12 SM for cams 24pp, 3 cat 6 UPS Wall field 24 MM 62.5 to Mdf CATV BHA-75 50 pr voice backbone, 32 voice grade station cables Replace all Cat 5 UTP cabling with Cat 6 UTP cabling.	$54,886	2-5 - Material Repairs

755	TL	Technology Low Voltage	Appears abandoned by IT No network electronics 2 audio racks Rack 1 48pp, 1 cat 5 Wall field 24 MM 62.5 to MDF FO cabinet 4EZ Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling. Assume: 1000' length of armored, indoor/outdoor cabling.	$14,420	2-5 - Material Repairs
753	TL	Technology Low Voltage	1 VZW rack 1 audio rack Rack 1 12 SM to Mdf WiFi 48pp, 6 cat 5, 2 cat 5e 48pp, 4 cat 5e, 15 cat 6 48pp, 10 cat 6 24pp, 20 cat 6a Rack 2 12 SM for cams 24pp, 3 cat 6 UPS Wall field 50 pr voice backbone, 32 voice grade station cables 24 MM 62.5 to Mdf CATV GI BHA-75 Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling.	$44,895	2-5 - Material Repairs

749	TL	Technology Low Voltage	1 VZW rack 1 audio rack Rack 1 12 SM to Mdf WiFi 48pp, 4 cat 5, 9 cat 5e 48pp, 19 cat 6 48pp, 10 cat 6 24pp, 19 cat 6a 24pp, 3 cat 6 UPS Wall field 50 pr voice backbone, 45 voice grade station cables 24 MM 62.5 to Mdf CATV GI BHA-75 amp Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling. Assume: 250' length per each new Cat 6 UTP (1) new rack mounted Cat 6 patch panel per 48 cables.	$55,546	2-5 - Material Repairs
745	TL	Technology Low Voltage	2 audio cabinets, amps Rack 1 6 MM 62.5 to 3D 48pp, 48 cat 6 24pp, 9 cat 6, 3 cat 6a 12 SM to Mdf WiFi 24pp, 11 cat 6 Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling. Assume: 1000' length of armored, indoor/outdoor cabling.	$6,202	2-5 - Material Repairs

743	TL	Technology Low Voltage	2 VZW racks 1 audio rack Rack 1, floor mounted 12 SM to Mdf WiFi 48pp, 8 cat 5, 2 cat 5e 48pp, 33 cat 6 48pp, 18 cat 6 48pp, 3 cat 6 24pp, 7 cat 6a Rack 2, wall 12 SM for cams 24pp, 12 cat 6 UPS Wall field 24 MM 62.5 to Mdf 6 MM 62.5 to 3W CATV BIDA-86a-43p 100 pr voice backbone, 48 voice grade station cables	$61,748	2-5 - Material Repairs
652	TL	Technology Low Voltage	2 VZW racks 1 ATT rack Rack 1 12 SM to Mdf WiFi 48pp, 48 cat 5 48pp, 40 cat 5 48pp, 28 cat 5e 48pp, 47 cat 6a Rack 2 12 SM for cams 24pp, 8 cat 6 UPS Wall field 24 MM 62.5 duplex SC 200 pr voice backbone, 96 voice grade station cables Catv BT unlabeled Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling.	$161,510	2-5 - Material Repairs

651	TL	Technology Low Voltage	No TGB Provide fs for all conduits, 20 4”c Provide fs for CT new bricks No cooling, hot Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 20 4”c Provide firestopping for 18”CT, new bricks Provide cooling	$13,300	2-5 - Material Repairs
650	TL	Technology Low Voltage	1 VZW rack 1 ATT rack Rack 1, floor 12 SM to Mdf WiFi 48pp, 30 cat 5 48pp, 16 cat 5e 24pp, 12 cat 6a Rack 2, wall 12 SM for cams 24pp, 15 cat 6 UPS Wall field 50 pr voice backbone, 45 voice grade station cables Fiber LIU 24 MM 62.5 Catv BT unlabeled Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling.	$77,353	2-5 - Material Repairs

649	TL	Technology Low Voltage	No TGB Fs all conduits, 17 4”c No cooling, hot Provide UPS for network electronics Provide fs for 12” CT new bricks Water leaking from pipes Provide TGB Bond all racks and cable runways to TGB Provide firestopping for all conduits, 17 4”c Provide firestopping for 12”CT, new bricks Provide UPS for active network electronics Provide cooling Repair leak	$16,940	2-5 - Material Repairs
648	TL	Technology Low Voltage	2 VZW racks 1 ATT rack Rack 1, floor 48pp, 26 cat 5 48pp, 20 cat 5e 24pp, 9 cat 6a Rack 2, wall mount 12 SM for cams 24pp, 16 cat 6 UPS Wall field Fiber LIU, 24 MM 62.5 duplex SC 6 MM 62.5 simplex SC 50 pr voice backbone, 40 voice grade station cables Catv, BT unlabeled Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling. Assume:	$80,251	2-5 - Material Repairs
646	TL	Technology Low Voltage	AV rack for Kardiac Club Rack 1 12 SM to Mdf WiFi 48pp, 42 cat 5e 48pp, 48 cat 6 48pp, 46 cat 6a Wall field 24 MM 62.5 to MDF Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling. Assume: 1000' length of armored, indoor/outdoor cabling.	$14,420	2-5 - Material Repairs

644	TL	Technology Low Voltage	IDF 2a 1 VZW rack 1 ATT rack Rack 1 12 SM for cams 24pp, 13 cat 6 UPS Rack 2 12 SM to Mdf 48pp,24 cat 5, 20 cat 5e 48pp, 40 cat 5e 48pp,36 cat 5e 48pp, 46 cat 6a Wall field 200 pr voice backbone, 102 voice grade station cables Fiber LIU 24 MM 62.5 SC duplex 6 MM 62.5 SC simplex Catv, BT amp unlabeled	$161,104	2-5 - Material Repairs
642	TL	Technology Low Voltage	1 VZW rack Rack 1 only 12 SM for cams 24pp, 24 cat 6 24pp, 6 cat 6 UPS Wall field 24 MM 62.5 to Mdf 50pr voice backbone, 14 voice grade station cables Replace all voice grade station cabling with Cat 6 UTP cabling. Assume: 250' length per each new Cat 6 UTP (1) new rack mounted Cat 6 patch panel per 48 cables. (2) new 3' Cat 6 patch cords per each new Cat 6 UTP cable. Replace all 62.5 micron MM (multimode) fiber optic cabling with new OM3 50 micron fiber optic cabling. Assume: 1000' length of armored, indoor/outdoor cabling.	$25,071	2-5 - Material Repairs

640	TL	Technology Low Voltage	1 VZW rack Rack 1 12 SM for cameras 24pp, 19 cat 6 UPS Rack 2 12 SM to Mdf WiFi 48pp,7 cat 5e, 1 cat 5 48pp, 32 cat 6 48pp, 18 cat 6 24pp, 16 cat 6 24pp, 22 cat 6a Wall field 50 pr voice backbone, 27 voice grade station cables Catv, BHA-74 and BIDA-86A-43 Fiber LIU 24 MM, 62.5 Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling.	$38,948	2-5 - Material Repairs
635	TL	Technology Low Voltage	Large cabling pass thru to MDF below 1 VZW rack Rack 1 12 SM for cams 24pp, 24 cat 6 24pp, 10 cat 6 UPS Rack 2 12 SM to Mdf WiFi 48pp, 4 cat 5 48pp, 4 cat 5 48pp, 38 cat 6 48pp, 17 cat 6 48pp, 16 cat 6a Wall field 100 pr backbone, 76 voice grade station cables Fiber LIU, 24 MM, 62.5 to Mdf CATV 1 BHA-75	$72,727	2-5 - Material Repairs

630	TL	Technology Low Voltage	2 VZW racks Rack 1 12 strand SM to MDF WiFi 48pp, 18 cat 5 48pp, 19 cat 6 48pp 22 cat 5e 48pp 16 cat 6a Rack 2 12 SM, camera 24pp, 12 cat 6 Wall Fiber LIU SC, to Mdf, 24 mm 62.5 Copper voice 50 pr, 48 voice grade station cables on 110 CATV BHA-75 Replace all Cat 5 UTP cabling with Cat 6 UTP cabling. Replace all voice grade station cabling with Cat 6 UTP cabling. Assume: 250' length per each new Cat 6 UTP	$75,370	2-5 - Material Repairs
612	TL	Technology Low Voltage	2 VZW DAS racks with ups Belden 1857a super flex stranded rg59 triax with kings 7705-3 9931 connector Rack 1 12SM to MDF WiFi 2 48pp cat5 1 48pp cat 5e 124pp cat 6 1 24p 10 cat6a, shielded, 11 cat 6 1 48 with cat 6 and 50% cat 5 No ups 2nd rack 18SM 3 24 cat 6 plus 1 cat 6 on 4th pp Back wall 24mm 62.5 to MDF SC 12mm 62.5 ST 150pr feed, 120 voice grade station cabling Catv BHA-75 GI amp Replace all Cat 5 UTP cabling with Cat 6 UTP cabling.	$204,481	2-5 - Material Repairs

607	TL	Technology Low Voltage	Rack 1 12 SM to Mdf WiFi rack 12 MM 62.5 to mdf 48pp Cat5 48pp, 48 cat 5 48pp, 48 cat 5 24 pp, 18 cat 5e, 6 Cat6 48pp, 45 cat 6a Ups Wall field CATV 1 BT amp BoDA Appears to feed south and west Truck dock video 25pr voice backbone Truck dock audio 25pr voice backbone 400pr backbone 100pr backbone tie lines 60 analog voice grade station cables 420 voice grade station cables Replace all Cat 5 UTP cabling with Cat 6 UTP cabling.	$417,925	2-5 - Material Repairs
532	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
531	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
530	TV	Technology AV/Security	All broadcast TV over coax projectors have green color shift in Lamp Projector using VGA PIP has no video input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

529	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
528	TV	Technology AV/Security	All broadcast TV over coax PIP LED reversed projectors have green color shift in Lamp Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
527	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
526	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
525	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

524	TV	Technology AV/Security	All broadcast TV over coax 2 systems west system PIP LED reversed east system no PIP video projectors have green color shift in Lamp Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
523	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
522	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
521	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color PIP LED reversed color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
519	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

518	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
517	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
516	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
515	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color channel select reversed PIP Color reversed LED but works Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
514	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
513	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

512	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
511	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
510	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
509	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
508	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
507	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

506	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
505	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
504	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
503	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
502	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
501	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

500	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
499	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
498	TV	Technology AV/Security	Broadcast video on Coax projector on VGA green shift in lamp color Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
495	TV	Technology AV/Security	All broadcast video is coax picture in picture no video input presidential suite picture in picture control Has only red LED Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
479	TV	Technology AV/Security	All broadcast TV over coax Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
477	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PIP not working Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

476	TV	Technology AV/Security	All broadcast TV over coax Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
475	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector PIP indicator red but working Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
474	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
473	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
472	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector PIP indicator red but working Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
471	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

470	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
469	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
468	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
467	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
466	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
465	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

464	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
463	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA 2 monitors Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
462	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA 2 monitors Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
461	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
460	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA 2 monitors Green shift in color temp of projector Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
458	TV	Technology AV/Security	All broadcast television over Coax 2 TVs Projector fed w/VGA PIP button no green but works No Video source for PIP Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

457	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
456	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
454	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
440	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
439	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
438	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PIP Video blue no video channel select for two video sources reversed Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

437	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
436	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA channel select for two video sources reversed Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
435	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
434	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
433	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input channel select for two video sources reversed Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
432	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

431	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PIP indicator is always red but works Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
430	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
429	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
428	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
427	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
426	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

425	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
424	TV	Technology AV/Security	All broadcast TV over coax Projector using RGB Projector overheats during games Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
423	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
422	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
421	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
420	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

419	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
418	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
417	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
416	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
414	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
413	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

412	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
411	TV	Technology AV/Security	AV system will not power on Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
408	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
407	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
406	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
405	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

404	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
403	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Abandoned Coax Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
402	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA PiP not working on second input Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
401	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
400	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
399	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA No signal on 2nd PIP Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

397	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
396	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
394	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
392	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
391	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
389	TV	Technology AV/Security	Combined 2 suites All broadcast TV over coax Both Projectors using VGA Provide (2) (minimum) 3000 lumen, 4K projectors with HDMI inputs. Provide (2) video processors, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side, on each projector.	$8,400	2-5 - Material Repairs

388	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
387	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
386	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs
385	TV	Technology AV/Security	All broadcast TV over coax Projector using VGA Provide (minimum) 3000 lumen, 4K projector with HDMI inputs. Provide video processor, with control and side-by-side picture processor. This video processor should have a similar feature set of displaying (2) unique videos, side by side.	$8,400	2-5 - Material Repairs

Total: **$33,307,584**

Task #	Stamp	Description	Cost	Time Period
1373	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 12 seats per suite. Total of 3,000 seats this level this quad.	$711,000	6-10 - Material Repairs
1371	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 12 seats per suite. Total of 3,000 seats this level this quad.	$711,000	6-10 - Material Repairs
1369	AG	Food service finish flooring. Original/damaged tile flooring. Recommend replacement within 6-10 year time frame. 300 S.F. Tile floor for replacement.	$9,480	6-10 - Material Repairs
1363	AG	Concourse concession OHC doors. Surface rusting and weathered surfaces. OHC door assembly at end of 20 year cycle. Recommend replacement over 6 -10 year time frame. 4 OHC doors at 15 FT wide. by 10 FT high. Galvanized metal.	$53,720	6-10 - Material Repairs
1362	AG	Metal roof above north Upper Deck Seating area. Galvanized metal decking supported by steel framing. Decking should be replaced within 6-10 year timeframe. Assume 36,000 S.F. (includes Quads B & C).	$398,160	6-10 - Material Repairs
1360	AG	Metal roof above north Upper Deck Seating area. Galvanized metal decking supported by steel framing. Decking should be replaced within 6-10 year timeframe. Assume 36,000 S.F. (includes Quads A & D).	$398,160	6-10 - Material Repairs
1211	AG	Concourse concession OHC doors. Surface rusting and weathered surfaces. OHC door assembly at end of 20 year cycle. Recommend replacement over 6 -10 year time frame. 8 OHC doors at 15 FT wide. by 10 FT high. Galvanized metal.	$107,440	6-10 - Material Repairs
1179	AG	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of frames are rusted at the base. Replace all door assemblies with hardware over 6-10 years. 30 total doors at 3FT. wide by 7FT. high.	$118,500	6-10 - Material Repairs
1166	AG	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of frames are rusted at the base. Replace all door assemblies with hardware over 6-10 years. 30 total doors at 3FT. wide by 7FT. high.	$118,500	6-10 - Material Repairs
1065	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 14,500 seats per quad. Each quad includes lower bowl and club level seating.	$3,436,500	6-10 - Material Repairs
806	AG	Lower Suite exterior handrails require repainting. There is a quantity of 30 total handrails estimated to be 6 LF each at 18" high. (a total of 180 LF)	$2,844	6-10 - Material Repairs
803	AG	Food service area ceilings. Original finished ceilings. Recommend replacement within 6-10 year time frame. 3,500 S.F. (Includes this club level, within this quad).	$35,945	6-10 - Material Repairs
801	AG	Typical toilet partition replacement. Four total.	$6,952	6-10 - Material Repairs
798	AG	Food service finish flooring. Original epoxy flooring. Recommend replacement within 6-10 year time frame. 3,500 S.F. (Includes this club level, within this quad). Assume epoxy flooring.	$52,535	6-10 - Material Repairs
797	AG	Food service area ceilings. Original finished ceilings. Recommend replacement within 6-10 year time frame. 5,000 S.F. (Includes this club level, within this quad).	$75,050	6-10 - Material Repairs
791	AG	Toilet partition replacement. Nine total.	$15,642	6-10 - Material Repairs
789	AG	Toilet partition replacement. For total.	$6,952	6-10 - Material Repairs
788	AG	Food service finish flooring. Original epoxy flooring. Recommend replacement within 6-10 year time frame. 5,000 S.F. (Includes this club level, within this quad). Assume epoxy flooring.	$75,050	6-10 - Material Repairs
775	AG	Club level concession area ceilings. Original finished ceilings. Recommend replacement within 6-10 year time frame. 3,500 S.F. (Includes this club level, within this quad).	$35,945	6-10 - Material Repairs
705	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 12 seats per suite. Total of 3,000 seats this level this quad.	$711,000	6-10 - Material Repairs
681	AG	Doors, door hardware and door thresholds need replaced. In the Main Concourse Level of Quad B, there are an estimated 30 single doors and 15 double doors. Within this level and quad, 2 single/double doors need immediate attention. Over the course of a 6-10 year period, it is recommended to replace all doors.	$225,150	6-10 - Material Repairs
662	AG	Replace ceiling grid and tiles due to rusting and age of grid and tiles. Area of room is estimated to be 300 SF within Home Team Locker Room.	$2,133	6-10 - Material Repairs
657	AG	Ceiling tiles are warped and replacement needed in Check-In. Water-stained ceiling tiles, located in the Service Level, may be caused by leakage from damaged gutter and draining systems located in the deck seating above. Area of room is estimated to be 400 SF.	$2,844	6-10 - Material Repairs
235	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 14,500 seats per quad. Each quad includes lower bowl and club level seating.	$3,436,500	6-10 - Material Repairs
234	AG	Dawg pound area seating: Paint is flaking off seat benches. Bench seating is secure. Recommend touch-up painting of seat benches. Assume 1,000 L.F. of benches within this quad. Quad includes lower bowl bench (dawg pound area) seating only.	$15,800	6-10 - Material Repairs
233	AG	Dawg pound area seating: Paint is flaking off seat benches. Bench seating is secure. Recommend touch-up painting of seat benches. Assume 1,000 L.F. of benches within this quad. Quad includes lower bowl bench (dawg pound area) seating only.	$15,800	6-10 - Material Repairs
231	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 14,500 seats per quad. Each quad includes lower bowl and club level seating.	$3,436,500	6-10 - Material Repairs

229	AG	Seating replacement: Rusting of standard feet and bases. Seat standards have spring failure. Recommend complete seat replacement within 6-10 year timeframe. Assume 14,500 seats per quad. Each quad includes lower bowl and club level seating.	$3,436,500	6-10 - Material Repairs
137	AG	Rusting interior fence assembly. Estimated damage is 24 LF of fencing.	$379	6-10 - Material Repairs
81	AG	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of frames are rusted at the base. Replace all door assemblies with hardware over 6-10 years. 30 total doors at 3FT. wide by 7FT. high.	$118,500	6-10 - Material Repairs
79	AG	Concourse concession/public service OHC doors. Surface rusting and weathered surfaces. OHC door assembly at end of 20 year cycle. Recommend replacement over 6 -10 year time frame. 6 OHC doors at 15 FT wide. by 10 FT high. Galvanized metal.	$80,580	6-10 - Material Repairs
72	AG	Concourse concession OHC doors. Surface rusting and weathered surfaces. OHC door assembly at end of 20 year cycle. Recommend replacement over 6 -10 year time frame. 7 OHC doors at 15 FT wide. by 10 FT high. Galvanized metal.	$94,010	6-10 - Material Repairs
69	AG	Concourse hollow metal doors and frames. Doors are generally functioning with hardware in fair condition. 30% of frames are rusted at the base. Replace all door assemblies with hardware over 6-10 years. 30 total doors at 3FT. wide by 7FT. high.	$118,500	6-10 - Material Repairs
691	AT	Rusting door, frame, and hardware to exterior ramp. Hollow metal door and frames. Door is generally functioning with hardware in fair condition. Frame is rusted at the base. Replace complete door assembly. (Pair) 4FT. wide by 7FT. high.	$7,900	6-10 - Material Repairs
347	CC	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 500 LF Structural cracks = 100 LF Guardrail post sealant = 50 each Guardrail post concrete = 50 each Backer rod / sealant = 325 LF Grind concrete = 100 LF Control joint = 2,500 LF 4" Sidewalk replacement = 200 SF 8" Pavement replacement = 200 SF 6" Curb replacement = 100 LF	$97,407	6-10 - Material Repairs
344	CC	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 500 LF Structural cracks = 50 LF Guardrail post sealant = 30 each Guardrail post concrete = 30 each Backer rod / sealant = 325 LF Grind concrete = 50 LF Control joint = 2,500 LF 4" Sidewalk replacement = 250 SF 8" Pavement replacement = 100 SF 6" Curb replacement = 100 LF	$72,680	6-10 - Material Repairs
340	CC	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 300 LF Structural cracks = 100 LF Guardrail post sealant = 0 each Guardrail post concrete = 0 each Backer rod / sealant = 325 LF Grind concrete = 200 LF Control joint = 2,500 LF 4" Sidewalk replacement = 500 SF 8" Pavement replacement = 200 SF 6" Curb replacement = 150 LF	$79,632	6-10 - Material Repairs
337	CC	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural cracks = 500 LF Structural cracks = 1500 LF Guardrail post sealant = 50 each Guardrail post concrete = 50 each Backer rod / sealant = 325 LF Grind concrete = 100 LF Control joint = 2,100 LF 4" Sidewalk replacement = 500 SF 8" Pavement replacement = 1000 SF 6" Curb replacement = 100 LF	$333,301	6-10 - Material Repairs
960	CL	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace remaining 6504 rotor sprinklers (22 total). Replace all lateral piping (1,800 LF).	$16,590	6-10 - Material Repairs
959	CL	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace remaining 6504 rotor sprinklers (30 total). Replace all lateral piping (2,100 LF).	$20,382	6-10 - Material Repairs
958	CL	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace remaining 6504 rotor sprinklers (21 total). Replace all lateral piping (2,200 LF).	$18,881	6-10 - Material Repairs
957	CL	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Irrigation: Replace remaining 6504 rotor sprinklers (50 total). Replace all lateral piping (2,500 LF).	$27,650	6-10 - Material Repairs
1447	HE	All air handling units (AHUs) and suite fan coil units (FCUs) are original to the stadium and are nearing the end of their useful service life. All AHUs and FCUs should be replaced with new equivalents within 6-10 years. There are approximately 33 AHUs and 135 FCUs. The average CFM per AHU is 10300. The average CFM per FCU is 900.	$2,445,722	6-10 - Material Repairs

1178	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$27,334	6-10 - Material Repairs
1172	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 100 ft Guard post sealant = 100 locations Backer rod and sealant joint = 200 ft Cove joint = 100 ft Precast joint sealant = 100 ft Sealant plugs = 50 locations Control joint sealant = 100 ft	$27,334	6-10 - Material Repairs
1025	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 500 ft Guard post sealant = 200 locations Backer rod and sealant joint = 1500 ft Cove joint = 1000 ft Precast joint sealant = 500 ft Sealant plugs = 500/locations Control joint sealant = 500 ft	$158,000	6-10 - Material Repairs
1019	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 200 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 500 ft Sealant plugs = 400 locations Control joint sealant = 500 ft	$142,674	6-10 - Material Repairs
1013	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 1000 ft Guard post sealant = 200 locations Backer rod and sealant joint = 750 ft Cove joint = 500 ft Precast joint sealant = 500 ft Sealant plugs = 400 locations Control joint sealant = 500 ft	$142,674	6-10 - Material Repairs

380	SJ	Non structural crack = 5000 ft Cove joint = 2000 ft Control joint sealant = 8000 ft	$161,160	6-10 - Material Repairs
374	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 400 locations Backer rod and sealant = 8000 ft Cove joint sealant 2500 ft Precast joint sealant = 1000 ft Precast sealant plugs = 400 locations Control joint sealant = 1000 ft	$357,554	6-10 - Material Repairs
368	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 400 locations Backer rod and sealant = 8000 ft Cove joint sealant 2500 ft Precast joint sealant = 1000 ft Precast sealant plugs = 450 locations Control joint sealant = 1000 ft	$360,872	6-10 - Material Repairs
362	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 300 locations Backer rod and sealant = 7000 ft Cove joint sealant 2000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 500 locations Control joint sealant = 1000 ft	$343,650	6-10 - Material Repairs
356	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 2000 ft Guard post sealant = 300 locations Backer rod and sealant = 7000 ft Cove joint sealant 2000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 500 locations Control joint sealant = 1000 ft	$343,650	6-10 - Material Repairs
287	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 10000 ft Guard post sealant = 200 locations Backer rod and sealant = 5100 ft Cove joint = 1000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 200 locations Control joint sealant = 600 ft	$383,624	6-10 - Material Repairs

281	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non structural crack = 10000 ft Guard post sealant = 200 locations Backer rod and sealant = 5100 ft Cove joint = 1000 ft Precast joint sealant = 1000 ft Precast sealant plugs = 200 locations Control joint sealant = 600 ft	$383,624	6-10 - Material Repairs
275	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 2000 ft Guard post sealant = 10 locations Cove joint = 1000 ft Control joint sealant = 4000 ft	$74,497	6-10 - Material Repairs
254	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Non-structural crack = 2000 ft Guard post sealant = 100 locations Cove joint = 1000 ft Control joint sealant = 4000 ft	$76,630	6-10 - Material Repairs
248	SJ	Non-structural crack = 400ft Guard post sealant = 150 locations Cove joint = 500 ft Control joint sealant = 2000 ft	$33,101	6-10 - Material Repairs
169	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 2000 ft 2) guard post sealant = 25 locations 3) cove joint = 1000 ft 4) control joint = 4000 ft	$74,853	6-10 - Material Repairs
163	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 2000 ft 2) guard post sealant = 25 locations 3) cove joint = 1000 ft 4) control joint = 4000 ft	$74,853	6-10 - Material Repairs
119	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 10000 ft 2) Guard post sealant = 180 locations 3) Backer rod & sealant joint = 5100 ft 4) Cove joint = 1000 ft 5) Precast joint sealant = 1000 ft 6) Precast sealant plugs = 150 locations 7) Control joint sealant = 600 ft	$379,832	6-10 - Material Repairs

109	SJ	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Non-structural crack = 10000 ft 2) Guard post sealant = 180 locations 3) Backer rod & sealant joint = 5100 ft 4) Cove joint = 1000 ft 5) Precast joint sealant = 1000 ft 6) Precast sealant plugs = 150 locations 7) Control joint sealant = 600 ft	$379,832	6-10 - Material Repairs
329	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad C this level.	$474,000	6-10 - Material Repairs
328	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad B this level.	$474,000	6-10 - Material Repairs
326	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad B this level.	$948,000	6-10 - Material Repairs
325	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad C this level.	$948,000	6-10 - Material Repairs
321	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad C this level.	$948,000	6-10 - Material Repairs
320	SR	eplace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad B this level.	$948,000	6-10 - Material Repairs
199	SR	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (2) ramps in Quad C.	$948,000	6-10 - Material Repairs
198	SR	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (2) ramps in Quad B.	$948,000	6-10 - Material Repairs
190	SR	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad C this level.	$474,000	6-10 - Material Repairs
188	SR	Replace entire ramp structure including slab, curb, metal deck and control joint sealants. Also salvage existing handrails for reinstallation. Cost of $300k is based on actual cost from 2018 ramp replacement in NW Quad. Total of (1) ramp in Quad B this level.	$474,000	6-10 - Material Repairs
1189	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$12,166	6-10 - Material Repairs

1186	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$12,166	6-10 - Material Repairs
1183	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Metal gutter = 150 ft Metal sub roof = 100 sf	$12,166	6-10 - Material Repairs
1175	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$34,357	6-10 - Material Repairs
1168	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 3 locations Step replacement = 1 location Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 100 sf Metal sub roof= 100	$34,357	6-10 - Material Repairs
1158	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$5,846	6-10 - Material Repairs
1155	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 5 sf Horizontal patch = 5 sf Touch up paint = 150 sf	$5,846	6-10 - Material Repairs
1031	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 20 sf Horizontal patch = 20 sf Touch up paint = 150 sf	$16,274	6-10 - Material Repairs
1028	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Touch up paint = 150 sf	$7,110	6-10 - Material Repairs

1016	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 10 locations Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 200 sf Metal sub roof= 100 sf	$36,103	6-10 - Material Repairs
1010	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 30 sf Horizontal patch = 30 sf Guard post concrete = 10 locations Masonry repair = 30 sf Touch up painting = 100 sf Metal gutter = 200 sf Metal sub roof= 100 sf	$36,103	6-10 - Material Repairs
1007	SS	Touch up painting = 3000 sf Clean out gutter = 800 ft	$51,192	6-10 - Material Repairs
1004	SS	Touch up painting = 3000 sf Clean out gutter = 800 ft	$51,192	6-10 - Material Repairs
1001	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 10 sf 2) masonry repair = 30 sf 3) Metal Gutter = 100 ft 4) Metal Sub roof = 100 sf	$13,430	6-10 - Material Repairs
998	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching = 5 sf 2) horizontal patch = 50 sf 3) Metal Gutter = 200 ft 4) Metal Sub roof = 100 sf	$24,490	6-10 - Material Repairs
969	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) Overhead and vertical patching =10 sf 2) Horizontal patch = 10 sf 3) Structural Crack = 10 ft 4) Masonry repair = 20 ft 5) Metal Gutter = 100 ft 6) Metal Sub roof = 100 sf	$16,432	6-10 - Material Repairs
378	SS	Vertical and overhead patch = 40 sf Horizontal patch = 200 sf Masonry repair = 40 sf Grind concrete = 100 ft Touch up painting = 6000 sf	$169,060	6-10 - Material Repairs

373	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 200 sf Horizontal patch = 250 sf Structural crack = 50 ft Guard post concrete = 10 locations Step replacement = 5 locations Touch up painting = 600 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000 sf	$249,877	6-10 - Material Repairs
366	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 150 sf Horizontal patch = 200 sf Structural crack = 50 ft Guard post concrete = 10 locations Step replacement = 5 locations Touch up painting = 600 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000 sf	$215,117	6-10 - Material Repairs
360	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 150 sf Horizontal patch = 200 sf Structural crack = 50 ft Guard post concrete = 10 locations Step replacement = 5 locations Touch up painting = 600 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000 sf	$215,117	6-10 - Material Repairs
354	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 150 sf Horizontal patch = 200 sf Structural crack = 50 ft Guard post concrete = 10 locations Step replacement = 5 locations Touch up painting = 600 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000 sf	$215,117	6-10 - Material Repairs
286	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 200 sf Horizontal patch = 400 sf Structural crack = 100 ft Guard post concrete = 30 locations Step replacement = 6 locations Grind concrete = 20ft Touch up paint = 1000 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000sf	$302,491	6-10 - Material Repairs

279	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 200 sf Horizontal patch = 400 sf Structural crack = 100 ft Guard post concrete = 30 locations Step replacement = 6 locations Grind concrete = 20ft Touch up paint = 1000 sf metal gutter replacement = 400 ft metal sub-roof deck = 3000 sf	$302,491	6-10 - Material Repairs
258	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 100 sf Guard post concrete = 4 locations Masonry repair = 100 sf Touch up painting = 3000 sf	$82,255	6-10 - Material Repairs
252	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. Overhead and vertical patch = 10 sf Horizontal patch = 100 sf Guard post concrete = 5 locations Masonry repair = 100 sf Touch up painting = 3000 sf	$82,279	6-10 - Material Repairs
246	SS	Horizontal patch = 60 sf Guard post concrete = 5 location Touch up paint = 500 sf	$21,291	6-10 - Material Repairs
168	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 50sf 2) horizontal patch = 40 sf 3) guard post concrete = 4 locations 4) masonry repair = 150 sf 5) touch up paint = 3000 sf	$91,893	6-10 - Material Repairs
162	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead & vertical patch = 50 sf 2) horizontal patch = 60 sf 3) guard post concrete = 6 locations 4) masonry repair = 150 sf 5) touch up paint = 3000 sf	$96,364	6-10 - Material Repairs

118	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 200 sf 2) horizontal patch = 300 sf 3) structural crack = 100 ft 4) guard post concrete = 30 locations 5) step replacement = 6 locations 6) grind concrete = 20 ft 7) touch up painting = 1000 sf 8) metal gutter replacement = 400 ft 9) metal sub-roof deck = 3000 sf	$280,371	6-10 - Material Repairs
108	SS	Repair quantities given within this stamp represent total values for the level and quadrant of the sheet on which the stamp is placed. 1) overhead and vertical patch = 200sf 2) horizontal patch = 300 sf 3) structural crack = 100 ft 4) guard post concrete = 30 locations 5) step replacement = 6 locations 6) touch up painting = 1000 sf 7) grind concrete = 20 ft 8) metal gutter replacement = 400 ft 9) metal sub-roof deck = 3000 sf	$280,371	6-10 - Material Repairs

Total: **$35,666,788**